## My ionnney to become a

 Superkero of Maths

So you have decided to start your journey to becoming a Master of Maths then? Well, you have come to the right place!

This book should help you to train the skills you need to beat each hero. If you have a spare minute, work on some of the activities in order to make you stronger at maths! Remember though, these are just a few suggestions; there is a whole host of things you, your teachers or parents can also do to help you become the best you can be!

When you beat each Hero, stick your certificate into your book so you can keep track of how far along the journey you are.

With the right amount of training, it will not be long until you have defeated all the Heroes to become a Master of Maths!

Good luck brave warrior!

## CO TENT



6
HAWK GIRL ..... 16
THOR ..... 26
BLACK WIDOW ..... 36
SUPERMAN
47
57
IRONMAN ..... 67WONDER WOMAN77

## TRY OUT THESE ACTIVITIES WHILE YOU ARE TRAINING; SOME PEOPLE'S LEARNING STYLES ARE DIFFERENT AND THESE MIGHT HELP YOU CRACK IT!

## TIMES TABLE HOP!

Grab a bean bag and throw it as far as you can on the playground. Jump to collect it, counting in 2,5 or 10 as you go!

BARMY ARMY!
Count how many people are on your table. Use your times table knowledge to work out how many arms there is altogether. What about the whole class?

## HOLY TOE-LY!

Use your 10 times table knowledge to work out how many toes there are in total at your table. Can you work out how many in the class? What about fingers and toes?

## TAKE YOUR

 CHANCES, ROLL THE DICE!Get a ten-sided dice and a training partner. Choose a times table to practise and roll the dice. Whatever it lands on you need to multiply.

## Early Multiplication <br> Multiplying By Two

Color the multiples of 2 :

2
Fill in the missing multiples of $t w o$ in the spiral below:


| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Match pairs of equivalent numbers and formulas:

| $2 \times 0$ | 4 | $1 \times 2$ | 0 |
| :---: | :---: | :---: | :---: |
| $2 \times 1$ | 8 | $0 \times 2$ | $2+2+2+2$ |
| $2 \times 2$ | 0 | $2 \times 2$ | 2 |
| $2 \times 3$ | 2 | $3 \times 2$ | $2+2$ |
| $2 \times 4$ | 12 | $4 \times 2$ | $2+2+2$ |
| $2 \times 5$ | 6 | $5 \times 2$ | $2+2+2+2+2$ |
| $2 \times 6$ | 10 | $6 \times 2$ | $2+2+2+2+2+2+2$ |
| $2 \times 7$ | 16 | $10 \times 2$ | $2+2+2+2+2+2$ |
| $2 \times 8$ | 18 | $7 \times 2$ | $2+2+2+2+2+2+2+2+2+2$ |
| $2 \times 9$ | 20 | $8 \times 2$ | $2+2+2+2+2+2+2+2+2$ |
| $2 \times 10$ | 14 | $9 \times 2$ | $2+2+2+2+2+2+2+2$ |

## Practise the 2 times table with the Simpsons!

Color the products of the 2 times table!


Which number is hiding under Bart's head?


Color matching multiplication and product
 in the same color.
$2 \times 5$


| $62 \times 8$ |
| :---: |


| 10 | $612 \times 4$ | $2 \times 11$ | 0 | 22 | $2 \times 9$ | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | <br> \section*{\section*{Early Multiplication <br> \section*{\section*{Early Multiplication <br> <br> Multiplying By Five, Part 2} <br> <br> Multiplying By Five, Part 2}

Multiply by five:


Fill in the missing multiples of five in the circles:


Fill in the missing numbers:

$5 \times \square=35$
$5 \times \square=30$
$\square \times 4=20$


$5 \times \square=45$


## Practise the 5 times table with

 Garfield！

Who is eating what？Connect the dots．

| Complete： |
| :--- |
| $5 \times 2=-$ |
| $5 \times 0=-$ |
| $5 \times 5=-$ |
| $5 \times 10=$ |
| $5 \times 6=-$ |
| $5 \times 12=$ |
| $5 \times 1=$ |
| $5 \times 8=$ |
| $5 \times 3=$ |
| $5 \times 7=$ |


－ $5 \times 3$

解


6ffftwtw6


舀 30 。
－ $5 \times 9$
－ $5 \times 8$
－ $5 \times 6$

－ $5 \times 11$

－ $5 \times 7$

Fill in the
blanks：


Color the arrows that multiply the number by 5.

$$
3 \quad 15
$$

5
10


7


219
45



## $2 x$ Table Coins ( $2 x$ ?)

- Look at each set of pictures. Write the repeated addition and multiplication.

|  |  |
| :---: | :---: |
| $2 p+2 p+2 p+2 p+2 p+2 p+2 p+2 p+2 p+2 p=20 p$ | $2 \mathrm{p} \times 10=20 p$ |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Practise the 10 times table with

## the Flintstones!

Connect every dino with her egg.


Write the matching multiplication.


Which number is each Flintstone hiding?


Complete:
$10 \times 6=$ $\qquad$
$10 \times 4=$ $\qquad$
$10 \times 0=$ $\qquad$
$10 \times 1=$ $\qquad$
$10 \times 9=$ $\qquad$
$10 \times 10=$ $\qquad$
$10 \times 8=$ $\qquad$
$10 \times 3=$ $\qquad$
$10 \times 12=$ $\qquad$
$10 \times 2=$ $\qquad$
$10 \times 7=$ $\qquad$
$10 \times 5=$ $\qquad$
$10 \times 11=$ $\qquad$

Multiplying with 10
Rainbow

| $10 \times 9$ | $9 \times 10$ | $9 \times 10$ | $10 \times 9$ | $10 \times 9$ | $10 \times 9$ | $10 \times 9$ | $9 \times 10$ | $10 \times 9$ | $10 \times 9$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $10 \times 10$ | $9 \times 10$ | $9 \times 10$ | $10 \times 10$ | $10 \times 10$ | $9 \times 10$ | $10 \times 10$ | $10 \times 10$ | $10 \times 3$ | $3 \times 10$ |
| $10 \times 10$ | $9 \times 10$ | $10 \times 9$ | $9 \times 10$ | $10 \times 10$ | $10 \times 10$ | $4 \times 10$ | $4 \times 10$ | $10 \times 1$ | $2 \times 10$ |
| $10 \times 10$ | $10 \times 9$ | $9 \times 10$ | $10 \times 9$ | $10 \times 4$ | $4 \times 10$ | $1 \times 10$ | $1 \times 10$ | $5 \times 10$ | $10 \times 6$ |
| $9 \times 10$ | $10 \times 9$ | $10 \times 10$ | $3 \times 10$ | $1 \times 10$ | $2 \times 10$ | $5 \times 10$ | $5 \times 10$ | $7 \times 10$ | $10 \times 8$ |
| $10 \times 10$ | $10 \times 9$ | $3 \times 10$ | $10 \times 1$ | $6 \times 10$ | $10 \times 5$ | $7 \times 10$ | $10 \times 8$ | $9 \times 10$ | $10 \times 9$ |
| $9 \times 10$ | $10 \times 9$ | $4 \times 10$ | $2 \times 10$ | $10 \times 6$ | $10 \times 8$ | $9 \times 10$ | $9 \times 10$ | $10 \times 9$ | $10 \times 10$ |
| $9 \times 10$ | $10 \times 4$ | $10 \times 2$ | $5 \times 10$ | $10 \times 8$ | $9 \times 10$ | $10 \times 10$ | $10 \times 10$ | $10 \times 9$ | $10 \times 10$ |
| $9 \times 10$ | $4 \times 10$ | $10 \times 1$ | $5 \times 10$ | $10 \times 7$ | $10 \times 9$ | $9 \times 10$ | $10 \times 9$ | $9 \times 10$ | $10 \times 9$ |
| $9 \times 10$ | $3 \times 10$ | $10 \times 1$ | $6 \times 10$ | $10 \times 7$ | $10 \times 10$ | $10 \times 9$ | $10 \times 9$ | $10 \times 9$ | $9 \times 10$ |

## Key:

| 10 or 20 | Orange |
| :--- | :--- |
| 30 or 40 | Red |
| 50 or 60 | Green |
| 70 or 80 | Yellow |
| 90 or 100 | Blue |

# Jf you think you have trained hard enongh to Geat Batman then speaf to your teacher: your enemy awaits! 



Jf you win, then stich your certificate here and write about what you are good at and what you found tricky in the space below

TRY OUT THESE ACTIVITIES WHILE YOU ARE TRAINING;
SOME PEOPLESS LEARNING STYLES ARE DIFFERENT AND THESE MIGHT HELP YOU CRACK IT!

## HOT POTATO!

Grab a bean-bag and some friends. Pass the bean-bag around and call out the times table you are practicing. Anyone who is too slow is eliminated until only the winner is left!

## WHOLE OR NOT?

Grab some number cubes and some paper. Chose a random number of cubes (write down how many) and see how many groups of 3 or 4 you can make. Are there any left over?
Notice any patterns?

## RAP ATTACK!

So you can sing your 2, 5 and 10 times table, how about you try rapping your 3 and 4 times? Maybe you could even make actions to go along with it.

## FOOTY FANATICS!

Tired of the same score lines in
TAKE YOUR CHANCES, ROLL THE DICE!

Get a ten-sided dice and a training partner. Choose a times table to practice and roll the dice.
Whatever it lands on you need to multiply!

## FASTER THAN A COMPUTER!

Your partner uses a calculator while you use your mind. Who can get to the answer quickest? footy? Change the scoring rules! Every time your team completes a pass, call out the next number from the 3 or 4 times table. If you complete the table you get to add another goal to your score! But beware, so does the other team!

Early Multiplication
Multiplying By Three


Fill in the missing multiples of three in the spiral below:


Color the multiples of 3 :

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Match the equivalent numbers and formulas:

| $3 \times 0$ | 0 | $1 \times 3$ | 0 |
| :---: | :---: | :---: | :---: |
| $3 \times 1$ | 12 | $0 \times 3$ | $3+3+3+3$ |
| $3 \times 2$ | 3 | $2 \times 3$ | 3 |
| $3 \times 3$ | 6 | $3 \times 3$ | $3+3$ |
| $3 \times 4$ | 18 | $4 \times 3$ | $3+3+3$ |
| $3 \times 5$ | 9 | $5 \times 3$ | $3+3+3+3+3$ |
| $3 \times 6$ | 15 | $6 \times 3$ | $3+3+3+3+3+3+3$ |
| $3 \times 7$ | 24 | $10 \times 3$ | $3+3+3+3+3+3$ |
| $3 \times 8$ | 27 | $7 \times 3$ | $3+3+3+3+3+3+3+3+3+3$ |
| $3 \times 9$ | 30 | $8 \times 3$ | $3+3+3+3+3+3+3+3+3$ |
| $3 \times 10$ | 21 | $9 \times 3$ | $3+3+3+3+3+3+3+3$ |

## Practise the 3 times table with

 Mickey!

Where does Mickey's golf ball end up? He only aims for the products of the 3 times table. Color these holes.


## Word Problems

- Mickey receives 3 marbles every week. How many
marbles does he have after 6 weeks? $\qquad$
- Mickey visits Minnie Mouse 3 times a day. How many visits did he bring in 11 days? $\qquad$
Who gives Mickey the right

| Fill in the 3 times tables: |  |  |
| :---: | :---: | :---: |
| 3 | 3 | 3 |
|  | $\times 6$ | $\times 0$ |
| 3 | 3 | 3 |
| $\times 10$ | $\times 4$ | $\times 9$ |
| 3 | 3 | 3 |
| $\times 7$ | $\times 12$ | $\times 2$ |
| 3 | 3 | 3 |
| $\times 8$ | $\times 3$ | $\times 5$ |

Complete.
$3 \times \ldots=12$
$3 \times \ldots=0$
$3 \times \ldots=9$
$3 \times \ldots=21$
$3 \times \ldots=15$

Early Multiplication
Multiplying By Four, Part 2

Multiply by four:


Fill in the missing multiples of four in the circles:




Fill in the missing numbers:

$4 \times \square=28$
$4 \times \square=24$
$\square \times 4=16$
$\square \times 10=40$

$4 \times \square=36$

$4 \times \square=20$

$4 \times \square=32$

## Practise the 4 times table with

 Tweety! same color.

What number is hidden under the cat paw?


| Complete: |
| :--- |
| 4 |
| 4 |
| $\times 6$ |


| 4 | 4 | 4 |
| ---: | ---: | ---: |
| $\times 1$ |  |  |

$4 \times *=12$
$4 \times:=20$
$4 \times:=48$
$4 \times \%=8$
$4 \times \%=16$
$4 \times \%=24$

Count by As!
$0-\ldots-\ldots-\ldots-\ldots-\ldots-\ldots-$
$\underline{\times 7} \quad \times 3 \quad \times 8$

... $-\ldots-\ldots-\ldots-\ldots-\ldots$

## Multiplication Arrays (2)

- Draw an array to go with each of the following multiplication calculations. Work out the answer.

|  |  |  |
| ---: | ---: | ---: |
|  |  |  |
| $4 \times 2=8$ |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| $3 \times 3=$ |  |  |
|  |  |  |
|  |  |  |
| $7 \times 3=$ |  |  |

- Some of the other arrays can be written using another multiplication calculation. Write them in.

Multiplying with 4
Surfer

| $4 \times 7$ | $4 \times 7$ | $7 \times 4$ | $4 \times 8$ | $8 \times 4$ | $4 \times 9$ | $3 \times 4$ | $4 \times 9$ | $4 \times 9$ | $10 \times 4$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $7 \times 4$ | $4 \times 8$ | $8 \times 4$ | $9 \times 4$ | $4 \times 9$ | $5 \times 4$ | $5 \times 4$ | $5 \times 4$ | $4 \times 9$ | $4 \times 9$ |
| $4 \times 8$ | $7 \times 4$ | $4 \times 10$ | $9 \times 4$ | $4 \times 10$ | $4 \times 10$ | $6 \times 4$ | $4 \times 10$ | $9 \times 4$ | $4 \times 10$ |
| $4 \times 7$ | $4 \times 10$ | $9 \times 4$ | $4 \times 9$ | $9 \times 4$ | $4 \times 4$ | $4 \times 4$ | $3 \times 4$ | $4 \times 9$ | $4 \times 10$ |
| $8 \times 4$ | $4 \times 10$ | $10 \times 4$ | $4 \times 9$ | $10 \times 4$ | $4 \times 5$ | $4 \times 9$ | $4 \times 6$ | $4 \times 9$ | $9 \times 4$ |
| $4 \times 8$ | $10 \times 4$ | $9 \times 4$ | $4 \times 10$ | $4 \times 4$ | $4 \times 3$ | $4 \times 4$ | $4 \times 4$ |  | $10 \times 4$ |
| $4 \times 8$ | $10 \times 4$ | $4 \times 10$ | $9 \times 4$ | $4 \times 10$ | $4 \times 9$ | $9 \times 4$ | $4 \times 2$ |  | $9 \times 4$ |
| $8 \times 4$ | $8 \times 4$ | $4 \times 10$ | $9 \times 4$ | $10 \times 4$ | $4 \times 10$ | $4 \times 10$ | $9 \times 4$ | $4 \times 2$ |  |
| $4 \times 8$ | $8 \times 4$ | $7 \times 4$ | $4 \times 10$ | $4 \times 10$ | $10 \times 4$ | $4 \times 10$ | $9 \times 4$ |  | $1 \times 4$ |
| $4 \times 8$ | $4 \times 8$ | $8 \times 4$ | $4 \times 7$ | $4 \times 7$ | $9 \times 4$ | $4 \times 9$ | $4 \times 9$ | $1 \times 4$ | $4 \times 9$ |

Key:

| 4 or 8 | Black |
| :--- | :--- |
| 12 or 16 | Yellow |
| 20 or 24 | Gray |
| 28 or 32 | Blue |
| 36 or 40 | Red |

*Blank squares are white


| Mad Maths Minutes |  |  | Mad Maths Minutes |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4x Table Practice Set A |  |  | 4x Table Practice Set B |  |  |  |  |
| 4 | x $2=$ | $8 \times 4=$ | 4 | X | $9=$ | $4 \times$ | 3 |
| 3 | $\times 4=$ | $5 \times 4=$ | 4 |  | $8=$ | 10 x | 4 |
| 4 | x $3=$ | $4 \times 6=$ | 5 |  | $4=$ | 0 x | 4 |
| 9 | $x 4=$ | $1 \times 4=$ | 7 |  | $4=$ | $4 \times$ | 4 |
| 4 | x $10=$ | $7 \times 4=$ | 4 |  | $7=$ | $4 \times$ | 10 |
| 6 | $\times 4=$ | $9 \times 4=$ | 4 | x | $1=$ | $2 \times$ | 4 |
| 4 | $\times 9=$ | $4 \times 4=$ | 4 |  | $5=$ | 3 x | 4 |
| 4 | $\times 7=$ | $10 \times 4=$ | 4 |  | $4=$ | $8 \times$ | 4 |
| 0 | $\times 4=$ | $1 \times 4=$ | 1 |  | $4=$ | $4 \times$ | 2 |
| 4 | $\times 6=$ | $4 \times 3=$ | 9 |  | $4=$ | $4 \times$ | 8 |
| 4 | x $8=$ | $4 \times 9=$ | 4 |  | $5=$ | $6 \times$ | 4 |
| 4 | $\times 4=$ | $4 \times 0=$ | 6 |  | $4=$ | 10 x | 4 |
| 3 | x $4=$ | $2 \times 4=$ | 2 |  | $4=$ | $8 \times$ | 4 |
| 5 | $\times 4=$ | $7 \times 4=$ | 4 |  | $7=$ | $4 \times$ | 6 |
| 4 | $\times 1=$ | $4 \times 5=$ | 4 | x | $0=$ | $4 \times$ | 4 |

Jf you think you have trained hard enough to
Beat Hawh-Gire then speak to your teacher:
your enemy awaits!


If you win, then stick your certificate here and write about what you are good at and what you found tricky in the space Gelow

## TRAIN TO BEAT THOR

TRY OUT THESE ACTIVIIES WHILE
YOU ARE TRAINING;
SOME PEOPLES LEARNING STYLIES AREDFFERENT AND THESEMCHT HELP YOU CRACK IT!


## HOT POTATO!

Grab a bean bag and some friends. You know the game so make it a bit trickier by calling out the tables backwards as well!
Anyone who is too slow is eliminated until only the winner is left!

## FOURS AND EIGHTS ARE MATES!

Get some number cubes and group them into fours. How many groups of four can you make? What is the total? Now try changing that number to groups of eight. What do you notice?
What happens when you change it to groups of 2 ?

## 7 HEAVEN!



Ask your teacher for a number square. Colour in all the multiples of seven you know ( $3 \times 7,2 \times 7,10 \times 7$, etc.) is there a pattern? Can you find our other numbers in the 7 times table? How about you colour in your other times tables.

What do you notice?

## FOOTBALL FANATICS!

Tired of the same old score lines in footy? Change the scoring rules! Every time your team completes a pass, call our the next number from the 6,7 or 8 times table. If you complete the table you get to add another goal to your score! But beware, so does other teams!

## TRAIN TO BEAT THOR!

Early Multiplication

## Multiplying By Six, Part 2



Practise the 7 times table with Spiderman!

Fill in the blanks.


Find the missing number and make 2 multiplications.

| 42 | $?$ | 7 |
| :---: | :---: | :---: |
| $\ldots$ | $\times \ldots$ | $=-$ |
| $\ldots$ | $\times \ldots$ |  |


| ? | 4 | 7 |
| :---: | :---: | :---: |
|  |  |  |


_ Complete:

$$
\begin{aligned}
& 7 \times \ldots=35 \\
& 7 \times \ldots=63 \\
& 7 \times \ldots=28
\end{aligned}
$$


$7 \times \ldots=84$
$7 \times \ldots=21$
$7 \times \ldots=49$

## Earry Mutipiniation Multiplying By Eight, Part 2

Fill in the missing numbers:
Fill in the missing multiples of eight in the circles:


 ,




$\square \times 4=32$
$8 \times \square=48$

$$
\square \times 10=80
$$


$8 \times \square=72$

$8 \times \square=40$

$8 \times \square=64$

# Practise the 6 times table with 

 Pimboli!Complete the table:


Write the answers:
$6 \times 6=$
$6 \times 4=$
$6 \times 7=$
$6 \times 8=$
$6 \times 1=$ $\qquad$ $6 \times 11=$ $\qquad$
$6 \times 4=$ $\qquad$ $6 \times 10=$
$6 \times 9=$ $\qquad$
$6 \times 7=$
$6 \times 5=$ $\qquad$ $6 \times 2=$
$6 \times 3=$
$6 \times 12=$ $\qquad$

๘ffffl 2 :

Early Multiplication
Multiplying By Seven


Fill in the missing multiples of seven in the spiral below：


Color the multiples of 7 ：

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Match the equivalent numbers and formulas：

| $7 \times 0$ | 21 | $1 \times 7$ | 0 合 |
| :---: | :---: | :---: | :---: |
| $7 \times 1$ | 0 | $0 \times 7$ | $7+7+7+7$ |
| $7 \times 2$ | 28 | $2 \times 7$ | 7 年 |
| $7 \times 3$ | 7 | $3 \times 7$ | $7+7$ 岗 |
| $7 \times 4$ | 14 | $4 \times 7$ | $7+7+7$ |
| $7 \times 5$ | 49 | $5 \times 7$ | $7+7+7+7+7$ |
| $7 \times 6$ | 35 | $6 \times 7$ | $7+7+7+7+7+7+7$ |
| $7 \times 7$ | 42 | $10 \times 7$ | $7+7+7+7+7+7$ |
| $7 \times 8$ | 56 | $7 \times 7$ | $7+7+7+7+7+7+7+7+7+7$ |
| $7 \times 9$ | 70 | $8 \times 7$ | $7+7+7+7+7+7+7+7+7$ |
| $7 \times 10$ | 63 | $9 \times 7$ | $7+7+7+7+7+7+7+7$ |

# Practise the 8 times table with Winnie the Pooh! 



Who gets what ? Connect the dots.

. 56


4 $8 \times 8$.

- 64

covul in:
648 $\qquad$ $=24$
$8 \times$ $\qquad$ $=96$
$8 \times$ $\qquad$ $=16$
$8 x$ $\qquad$ $=80$
$8 \times$ $\qquad$ $=88$
$8 \times$ $\qquad$ $=48$


What number is missing? Make 2 multiplications.



\section*{| Multi-Squares | Zeros - Sixes |
| :--- | :--- |}

Put the correct number in each box so the
horizontal $\Rightarrow$ and vertical II product are correct.


## Multi-Squares $\quad$ Zeros -Eights

Put the correct number in each box so the
horizontal $\Leftrightarrow$ and vertical $\sqrt{5}$ product are correct.


Jf you think you have trained hard enough to Geat Thors' mighty Rammer then speak to your teacher.


If you win, then stick your certificate here and write about what you are good at and what you found tricky in the space below

TRY OUT THESE ACTIVITIES WHILE YOU ARE TRAINING; SOME PEOPLE'S LEARNING STYLES ARE DIFFERENT AND THESE MIGHT HELP YOU CRACK IT!

## SKIP TO THE BEAT!

Grab a skipping rope at playtime.


Get a ten-sided dice and a training partner.
Choose a times table to practise and roll the dice. Whatever it lands on you need to multiply!

## WHOLE OR NOT?

Grab some number cubes and some paper. Choose a random number of cubes (write down how many) and see how many groups of 9, II or 12 you can make. Are there any left over? Notice any patterns?

## QUICK ON THE DRAW!

Find a partner and face them. Count down from three and when you get to 0 each person has to quickly pull their hands from behind their back and show some of their fingers. The winner is the person who can multiply both amounts of fingers together the fastest!

Want a different way to play handball? Count through your times tables as you play; the first person to get to the end gets an extra life!

Early Multiplication

## Multiplying By Nine, Part 2

Multiply by nine:


Fill in the missing multiples of nine in the circles:


Fill in the missing numbers:


## Practise the 9 times table with

## Bono!

## Word problems!



rrBono delivers the mail. His
friends Olaf, Flo en Jeep Sheep
receive 9 letters each. How many
letters does Bono deliver?
6Multiplication: $\qquad$

Answer: $\qquad$

) 6666 Bono is getting married and places tables for the party.
Each table seats 9 friends.
There is a total of 8 tables. How many
friends will attend the wedding?
6 Multiplication: $\qquad$

Answer: $\qquad$

$9 \times 5$
hidden under
each jigsaw
piece?
$9 \times$ ك ${ }^{2}$ ? $=18$


| $\quad$ Fill in: |
| :--- |
| $9 \times 9=$ |
| $9 \times 10=$ |
| $9 \times 1=-$ |
| $9 \times 7=\square$ |
| $9 \times 12=$ |
| $9 \times 3=$ |
| $9 \times 4=$ |
| $9 \times 6=$ |
| $9 \times 0=$ |
| $9 \times 5=$ |
| $9 \times 8=$ |
| $9 \times 2=$ |
| $9 \times 11=$ |

Fill in:
$\qquad$
$9 \times 10=$ $\qquad$
$9 \times 1=$
$9 \times 7=$ $\qquad$
$9 \times 12=$ $\qquad$
$9 \times 3=$ $\qquad$
$9 \times 4=$
$9 \times 6=$ $\qquad$
$9 \times 0=$
$9 \times 5=$ $\qquad$
$9 \times 8=$ $\qquad$
$9 \times 2=$
$9 \times 11=$ $\qquad$

Red Bird- Close Up

| $1 \times 8$ | $1 \times 3$ | $3 \times 5$ | $2 \times 8$ | $1 \times 4$ | $9 \times 1$ | $8 \times 2$ | $2 \times 10$ | $4 \times 3$ | $1 \times 5$ | $2 \times 10$ | $3 \times 4$ | $1 \times 1$ | $3 \times 6$ | $4 \times 1$ | $4 \times 4$ | $3 \times 2$ | $2 \times 2$ | $4 \times 3$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $7 \times 2$ | $8 \times 2$ | $6 \times 2$ | $6 \times 1$ | $9 \times 1$ | $2 \times 6$ | $2 \times 1$ | $3 \times 2$ | $2 \times 5$ | $2 \times 1$ | $1 \times 9$ | $1 \times 8$ | $4 \times 3$ | $1 \times 7$ | $1 \times 7$ | $1 \times 4$ | $2 \times 7$ | $1 \times 1$ | $2 \times 2$ |  |
| $1 \times 9$ | $7 \times 1$ | $10 \times 1$ | $3 \times 1$ | $5 \times 1$ | $3 \times 3$ | $9 \times 2$ | $1 \times 10$ | $2 \times 3$ | $2 \times 3$ | $4 \times 3$ | $1 \times 4$ | $2 \times 9$ | $10 \times 1$ | $2 \times 1$ | $5 \times 2$ | $2 \times 9$ | $2 \times 8$ | $5 \times 1$ |  |
| $5 \times 3$ | $2 \times 2$ | $7 \times 6$ | $7 \times 6$ | $9 \times 6$ | $6 \times 8$ | $1 \times 1$ | $10 \times 2$ | $4 \times 4$ | $6 \times 2$ | $1 \times 4$ | $5 \times 4$ | $3 \times 5$ | $2 \times 1$ | $7 \times 6$ | $7 \times 8$ | $6 \times 8$ | $1 \times 8$ | $4 \times 5$ |  |
| $2 \times 10$ | $4 \times 5$ | $7 \times 7$ | $10 \times 6$ | $9 \times 6$ | $5 \times 10$ | $9 \times 5$ | $10 \times 6$ | $5 \times 10$ | $2 \times 8$ | $6 \times 9$ | $5 \times 10$ | $8 \times 6$ | $7 \times 6$ | $7 \times 7$ | $8 \times 6$ | $7 \times 8$ | $3 \times 6$ | $10 \times 2$ |  |
| $5 \times 4$ | $5 \times 2$ | $3 \times 1$ | $1 \times 10$ | $2 \times 2$ | $6 \times 8$ | $7 \times 8$ | $9 \times 6$ | $9 \times 6$ | $6 \times 3$ | $8 \times 6$ | $9 \times 5$ | $10 \times 6$ | $7 \times 7$ | $9 \times 1$ | $4 \times 5$ | $2 \times 10$ | $3 \times 1$ | $2 \times 4$ |  |
| $2 \times 10$ | $2 \times 4$ | $2 \times 10$ | $3 \times 1$ |  |  |  |  |  | $1 \times 9$ |  |  |  |  |  |  |  |  |  |  |
| $3 \times 3$ | $2 \times 9$ | $3 \times 1$ | $7 \times 1$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Key:

| $1-20$ | Red |
| :--- | :--- |
| $21-40$ | Tan |
| $41-60$ | Black |
| $61-100$ | Orange |


\section*{| Multi-Squares | Zeros - Nines |
| :--- | :--- |}

Put the correct number in each box so the
horizontal $\Leftrightarrow$ and vertical 15 product are correct.


Practise the 11 times table with


Give the matching stars the same color.
Buzz Lightyear!


| Complete: |
| :--- |
| $11 \times 5=$ |
| $11 \times 1=$ |
| $11 \times 9=$ |
| $11 \times 3=$ |
| $11 \times 11=$ |
| $11 \times 10=$ |
| $11 \times 6=$ |
| $11 \times 7=$ |
| $11 \times 2=$ |
| $11 \times 8=$ |
| $11 \times 4=$ |
| $11 \times 12=$ |

Practise the 12 times table with Spongebob!

$12 \times 6=$
$12 \times 1=$
$12 \times 9=$
$12 \times 3=$
$12 \times 11=$
$12 \times 10=$
$12 \times 12=$
$12 \times 5=$
$12 \times 7=$
$12 \times 2=$
$12 \times 8=$
$12 \times 4=$
$12 \times 0=$


| Fill in: | $12 x_{\ldots}=24$ |
| :--- | :--- |
| $12 x_{\ldots}=36$ | $12 x_{\ldots}=48$ |
| $12 x_{\ldots}=144$ | $12 x_{\ldots}=108$ |
| $12 x_{\ldots}=84$ | $12 x_{\ldots}=132$ |

## Early Multiplication

## Multiplying By Nine



Fill in the missing multiples of nine in the spiral below:


Color the multiples of 9 :

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Match the equivalent numbers and formulas:

| $9 \times 0$ | 27 | $1 \times 9$ | 0 |
| :---: | :---: | :---: | :---: |
| $9 \times 1$ | 0 | $0 \times 9$ | $9+9+9+9$ |
| $9 \times 2$ | 36 | $2 \times 9$ | 9 |
| $9 \times 3$ | 9 | $3 \times 9$ | $9+9$ |
| $9 \times 4$ | 18 | $4 \times 9$ | $9+9+9$ |
| $9 \times 5$ | 63 | $5 \times 9$ | $9+9+9+9+9$ |
| $9 \times 6$ | 45 | $6 \times 9$ | $9+9+9+9+9+9+9$ |
| $9 \times 7$ | 54 | $10 \times 9$ | $9+9+9+9+9+9$ |
| $9 \times 8$ | 72 | $7 \times 9$ | $9+9+9+9+9+9+9+9+9+9$ |
| $9 \times 9$ | 90 | $8 \times 9$ | $9+9+9+9+9+9+9+9+9$ |
| $9 \times 10$ | 81 | $9 \times 9$ | $9+9+9+9+9+9+9+9$ |

Multiplication Drill


Multiplication Drill


## Jf you think you have trained hard enough to overcome the Gaffling Black Widow then speak to your teacher.



Jf you win, then stick your certificate here and write about what you are good at and what you found tricky in the space below

## QUICK ON THE DRAW!

## SING UP!

Think of your favourite song. Got it?
Now use the tune to create a song about the times table you are training for. Share it with your friends and see if you can help them too!

Find a partnet and face them. Count down from three and when you get to 0 each person has to quickly pull their hands from behind their back and show some of their fingers. The winner is the person who can multiply both amounts of fingers together the fastest!

## REVERSE REVERSE!

You should know your times tables by now; how about you write out a division table? E.g.

$$
\begin{aligned}
& 3 \div 1=3 \\
& 6 \div 2=3
\end{aligned}
$$

## BREAK DOWN!

## HOT POTATO!

Grab a bean-bag and some friends. You know the game so make it a bit trickier by practicing your division! One person calls out a division sum and passes the potato onto the next person; if they are too slow then they are eliminated!

Grab some number cubes, as many as you like. How many are there? Can you break them down into equal groups of $3,6,9$ or I2? What do you notice? How about groups of 2,4 or 8 ? Are there any left overs?

认施列 なた なた



Total number of stars $=$ $\square$

| Q．No | Number of stars in each <br> group | Number of groups | Left over |
| :---: | :---: | :---: | :---: |
| 1 | 4 |  |  |
| 2 | 7 |  |  |
| 3 | 5 |  |  |
| 4 | 11 |  |  |
| 5 | 12 |  |  |
| 7 | 14 |  |  |
| 9 | 15 |  |  |
| 9 | 7 |  |  |

## Division Groups

1) Divide into groups of 8 :

a) How many groups of 8 can you form?

b) How many items left over?

2) Divide into groups of 3:


a) How many groups of 3 can you form?

b) How many items left over? $\square$
3) Divide into groups of 5:
-2020202020

a) How many groups of 5 can you form?

b) How many items left over? $\square$
4) Divide into groups of 2 :

a) How many groups of 2 can you form?

b) How many items left over?
5) Divide into groups of 10 :

## 0000000000 0000000000 0000000

a) How many groups of 10 can you form?

b) How many items left over? $\square$
4) Divide into groups of 6:
 chaturater

a) How many groups of 6 can you form?

b) How many items left over?

6) Divide into groups of 7 :


a) How many groups of 7 can you form?

b) How many items left over?

8) Divide into groups of 9:

a) How many groups of 9 can you form?

b) How many items left over? $\square$

```
In-Out Boxes - Division
```

1) | IN | OUT |
| :---: | :---: |
|  | 2 |
|  | 5 |
|  | 7 |
| 40 |  |
| 50 |  |
|  |  |
| Rule: Divide by 5 |  |
2) | IN | OUT |
| :---: | :---: |
|  | 3 |
|  | 6 |
| 63 | 8 |
| 77 |  |

Rule: Divide by 7
4)

| IN | OUT |
| :---: | :---: |
|  | 1 |
|  | 3 |
| 24 | 4 |
| 30 |  |
| Rule: Divide by 3 |  |

5) 

| IN |  |  |  | 60 | 72 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| OUT | 4 | 5 | 7 |  |  |
| Rule: Divide by 6 |  |  |  |  |  |

6) 

| IN |  |  |  | 81 | 108 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| OUT | 0 | 3 | 7 |  |  |
| Rule: Divide by 9 |  |  |  |  |  |

7) 

| IN |  |  |  |  | 16 | 18 | 20 | 22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OUT | 2 | 3 | 5 | 6 |  |  |  |  |

Rule: Divide by 2

## Division Times Table - 4,6,8

| $24 \div 8=$ | $32 \div 4=$ | $4 \div 4=$ |
| :---: | :---: | :---: |
| $40 \div 4=\ldots$ | $30 \div 6=$ | $18 \div 6=$ |
| $12 \div 4=$ | $56 \div 8=$ | $12 \div 4=$ |
| $30 \div 6=\ldots{ }^{(4)}$ | $48 \div 8=$ | $24 \div 4=$ |
| $20 \div 4=$ | $40 \div 8=$ | $48 \div 8=$ |
| $32 \div 8=$ | $32 \div 4=$ | $64 \div 8=$ |
| $16 \div 8=$ | $12 \div 6=$ | $18 \div 6=$ |
| $48 \div 8=\ldots{ }^{(8)}$ | $32 \div 8=$ | $16 \div 8=$ |
| $32 \div 8=$ | $64 \div 8=$ | $36 \div 4=$ |
| $8 \div 4=\ldots$ | $60 \div 6=$ | $4 \div 4=\ldots$ |

Yellow Bird- Close Up

| $54 \div 9$ | $42 \div 7$ | $42 \div 7$ | $40 \div 8$ | $54 \div 9$ | $45 \div 9$ | $50 \div 10$ | $40 \div 8$ | $60 \div 10$ | $36 \div 6$ | $35 \div 7$ | $45 \div 9$ | $60 \div 10$ | $10 \div 2$ | $30 \div 6$ | $12 \div 2$ | $18 \div 3$ | $15 \div 3$ | $50 \div 10$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $42 \div 7$ | $40 \div 8$ | $48 \div 8$ | $48 \div 8$ | $54 \div 9$ | $5 \div 1$ | $5 \div 1$ | $6 \div 1$ | $10 \div 5$ | $14 \div 7$ | $30 \div 5$ | $18 \div 3$ | $12 \div 2$ | $18 \div 3$ | $30 \div 5$ | $10 \div 2$ | $45 \div 9$ | $42 \div 7$ | $15 \div 3$ |
| $15 \div 3$ | $60 \div 10$ | $20 \div 4$ | $42 \div 7$ | $45 \div 9$ | $35 \div 7$ | $36 \div 6$ | $10 \div 2$ | $40 \div 8$ | $5 \div 5$ | $4 \div 2$ | $12 \div 2$ | $35 \div 7$ | $5 \div 1$ | $25 \div 5$ | $25 \div 5$ | $18 \div 3$ | $5 \div 1$ | $20 \div 4$ |
| $6 \div 1$ | $30 \div 5$ | $54 \div 9$ | $20 \div 4$ | $50 \div 10$ | $12 \div 2$ | $30 \div 5$ | $10 \div 2$ | $36 \div 6$ | $8 \div 8$ | $40 \div 8$ | $36 \div 6$ | $30 \div 6$ | $18 \div 3$ | $25 \div 5$ | $48 \div 8$ | 50 $\div 10$ | $30 \div 6$ | $20 \div 4$ |
| $6 \div 1$ | $48 \div 8$ | $48 \div 8$ | $36 \div 6$ | $42 \div 7$ | $30 \div 5$ | $36 \div 6$ | $40 \div 8$ | $30 \div 5$ | $24 \div 4$ | $18 \div 3$ | $36 \div 6$ | $20 \div 4$ | $25 \div 5$ | $60 \div 10$ | $20 \div 4$ | $15 \div 3$ | $24 \div 4$ | $18 \div 3$ |
| $15 \div 3$ | $15 \div 3$ | $60 \div 10$ | $6 \div 2$ | $12 \div 3$ | $36 \div 6$ | $24 \div 4$ | $60 \div 10$ | $15 \div 3$ | $48 \div 8$ | $30 \div 6$ | $18 \div 3$ | $5 \div 1$ | $50 \div 10$ | $30 \div 10$ | $12 \div 3$ | $35 \div 7$ | $45 \div 9$ | $48 \div 8$ |
| $5 \div 1$ | $25 \div 5$ | $45 \div 9$ | $6 \div 2$ | $30 \div 10$ | $40 \div 10$ | $28 \div 7$ | $5 \div 1$ | $10 \div 2$ | $48 \div 8$ | $6 \div 1$ | $12 \div 2$ | $27 \div 9$ | $30 \div 10$ | $3 \div 1$ | $18 \div 6$ | $45 \div 9$ | $15 \div 3$ | $35 \div 7$ |
| $24 \div 4$ | $54 \div 9$ | $10 \div 2$ | $24 \div 4$ | $40 \div 8$ | $27 \div 9$ | $24 \div 6$ | $6 \div 2$ | $6 \div 2$ | $30 \div 6$ | $20 \div 5$ | $18 \div 6$ | $16 \div 4$ | $30 \div 10$ | $40 \div 8$ | $45 \div 9$ | $15 \div 3$ | $18 \div 3$ | $54 \div 9$ |
| $30 \div 6$ | $5 \div 1$ | $25 \div 5$ |  |  |  |  | $16 \div 4$ | $3 \div 1$ | $42 \div 7$ | $9 \div 3$ | $9 \div 3$ |  |  |  | $40 \div 8$ | $35 \div 7$ | $36 \div 6$ | $18 \div 3$ |
| $20 \div 4$ | $42 \div 7$ | $60 \div 10$ |  |  |  | $20 \div 10$ |  | $36 \div 6$ | $48 \div 8$ | $50 \div 10$ |  | $4 \div 2$ |  |  | $36 \div 6$ | $5 \div 1$ | $36 \div 6$ | $20 \div 4$ |
| $20 \div 4$ | $48 \div 8$ | $5 \div 1$ |  |  |  |  |  | $35 \div 7$ | $6 \div 1$ | $48 \div 8$ |  |  |  |  | $60 \div 10$ | $40 \div 8$ | $54 \div 9$ | $25 \div 5$ |
| $40 \div 8$ | $30 \div 5$ | $12 \div 2$ | $10 \div 2$ |  |  |  | $60 \div 10$ | $40 \div 8$ | $40 \div 8$ | $6 \div 1$ | $6 \div 1$ |  |  | $10 \div 2$ | $6 \div 1$ | $36 \div 6$ | $10 \div 2$ | $18 \div 3$ |
| $12 \div 2$ | $15 \div 3$ | $15 \div 3$ | $45 \div 9$ | $35 \div 7$ | $42 \div 7$ | $45 \div 9$ | $6 \div 1$ | $30 \div 10$ | $27 \div 9$ | $24 \div 6$ | $12 \div 4$ | $8 \div 2$ | $4 \div 1$ | $27 \div 9$ | $3 \div 1$ | $24 \div 4$ | $5 \div 1$ | $30 \div 6$ |
| $48 \div 8$ | $30 \div 5$ | $45 \div 9$ | $15 \div 3$ | $15 \div 3$ | $5 \div 1$ | $25 \div 5$ | $30 \div 6$ | $20 \div 5$ | $30 \div 10$ | $40 \div 10$ | $12 \div 3$ | $21 \div 7$ | $6 \div 2$ | $12 \div 4$ | $15 \div 3$ | $6 \div 1$ | $40 \div 8$ | $45 \div 9$ |
| $5 \div 1$ | $35 \div 7$ | $20 \div 4$ | $35 \div 7$ | $20 \div 4$ | $15 \div 3$ | $12 \div 2$ | $60 \div 10$ | $24 \div 8$ | $4 \div 1$ | $21 \div 7$ | $16 \div 4$ | $12 \div 4$ | $6 \div 1$ | $48 \div 8$ | $12 \div 2$ | $18 \div 3$ | $25 \div 5$ | $18 \div 3$ |
| $54 \div 9$ | $60 \div 10$ | $25 \div 5$ | $50 \div 10$ | $15 \div 3$ | $48 \div 8$ | $50 \div 10$ | $5 \div 1$ | $30 \div 10$ | $40 \div 10$ | $36 \div 6$ | $48 \div 8$ | $60 \div 10$ | $42 \div 7$ | $30 \div 6$ | $10 \div 2$ | $5 \div 1$ | $35 \div 7$ | $60 \div 10$ |
| $18 \div 3$ | $45 \div 9$ | $20 \div 4$ | $60 \div 10$ | $10 \div 2$ | $10 \div 2$ | $20 \div 4$ | $30 \div 6$ | $48 \div 8$ | $24 \div 4$ | $30 \div 5$ | $15 \div 3$ | $20 \div 4$ | $36 \div 6$ | $30 \div 5$ | $48 \div 8$ | $18 \div 3$ | $42 \div 7$ | $48 \div 8$ |
| $25 \div 5$ | $54 \div 9$ | $24 \div 4$ | $30 \div 6$ | $5 \div 1$ | $5 \div 1$ | $24 \div 4$ | $20 \div 4$ | $30 \div 5$ | $35 \div 7$ | $36 \div 6$ | $18 \div 3$ | $24 \div 4$ | $40 \div 8$ | $30 \div 5$ | $50 \div 10$ | $15 \div 3$ | $30 \div 5$ | $45 \div 9$ |
| $40 \div 8$ | $6 \div 1$ | $48 \div 8$ | $50 \div 10$ | $35 \div 7$ | $10 \div 2$ | $25 \div 5$ | $45 \div 9$ | $48 \div 8$ | $42 \div 7$ | $24 \div 4$ | $36 \div 6$ | $25 \div 5$ | $10 \div 2$ | $54 \div 9$ | $30 \div 6$ | $15 \div 3$ | $15 \div 3$ | $48 \div 8$ |
| $36 \div 6$ | $50 \div 10$ | $60 \div 10$ | $6 \div 1$ | $25 \div 5$ | $54 \div 9$ | $35 \div 7$ | $20 \div 4$ | $24 \div 4$ | $18 \div 3$ | $18 \div 3$ | $25 \div 5$ | $5 \div 1$ | $10 \div 2$ | $36 \div 6$ | $20 \div 4$ | $36 \div 6$ | $36 \div 6$ | $50 \div 10$ |

## Key:

| 1,2 | Black |
| :--- | :--- |
| 3,4 | Red-Orange |
| 5,6 | Yellow |
|  | *Blank squares are white |

## Division Times Table - 6,7,8,9

| $45 \div 9=$ | $6 \div 6=$ | $72 \div 9=\ldots$ |
| :---: | :---: | :---: |
| $21 \div 7=\ldots$ | $42 \div 7=\ldots$ | $54 \div 9=\ldots{ }^{(22)}$ |
| $60 \div 6=ـ_{\text {_ }}{ }^{(3)}$ | $12 \div 6=$ | $30 \div 6=\ldots$ |
| $63 \div 7=ـ_{\text {_ }}{ }^{(4)}$ | $45 \div 9=\ldots$ | $81 \div 9=$ |
| $32 \div 8=$ | $18 \div 6=$ | $40 \div 8=$ |
| $72 \div 9=\ldots{ }^{(6)}$ | $40 \div 8=$ | $63 \div 7=\ldots{ }^{(26)}$ |
| $42 \div 6=\ldots$ | $48 \div 6=\ldots$ | $49 \div 7=\ldots$ |
| $16 \div 8=\ldots$ | $35 \div 7=\ldots$ | $72 \div 9=\ldots{ }^{(28)}$ |
| $32 \div 8=\ldots$ | $24 \div 8=$ | $24 \div 6=$ |
| $56 \div 8=$ | $81 \div 9=\ldots$ | $70 \div 7=\ldots$ |

## Division and Multiplication Mix - 11

| $11 \times 2=$ | $2 \times 11=$ | $44 \div 11=$ |
| :---: | :---: | :---: |
| $11 \times 1=\ldots$ | $11 \times 5=$ | $3 \times 11=$ |
| $11 \times 7=ـ^{(3)}$ | $110 \div 11=$ | $11 \times 0=\ldots$ |
| $22 \div 11=\ldots$ | $11 \times 4=$ | $11 \times 8=$ |
| $11 \times 2=$ | $11 \times 4=$ | $110 \div 11=$ |
| $99 \div 11=]^{(6)}$ | $33 \div 11=$ | $11 \div 11=$ |
| $11 \times 2=\ldots$ | $44 \div 11=$ | $22 \div 11=$ |
| $55 \div 11=\chi^{(8)}$ | $110 \div 11=$ | $8 \times 11=$ |
| $77 \div 11=\ldots$ | $88 \div 11=$ | $22 \div 11=$ |
| $11 \div 11=$ | $11 \times 7=\ldots$ | $9 \times 11=$ |

## Division and Multiplication Mix-12

| $48 \div 12=\ldots$ | $108 \div 12=$ | $36 \div 12=\ldots$ |
| :---: | :---: | :---: |
| $120 \div 12=$ | $72 \div 12=\ldots{ }^{(12)}$ | $12 \times 10=\ldots{ }^{(22)}$ |
| $9 \times 12=\ldots$ | $120 \div 12=\ldots$ | $24 \div 12=\ldots$ |
| $12 \times 3=\ldots{ }^{(4)}$ | $48 \div 12=\ldots$ | $108 \div 12=\ldots$ |
| $12 \times 7=\ldots{ }^{(5)}$ | $48 \div 12=\ldots{ }^{(15)}$ | $108 \div 12=$ |
| $12 \div 12=\ldots{ }^{(6)}$ | $12 \times 2=\ldots$ | $12 \div 12=\ldots$ |
| $12 \times 8=\ldots{ }^{(7)}$ | $5 \times 12=\ldots$ | $5 \times 12=\ldots$ |
| $48 \div 12=\ldots{ }^{(8)}$ | $60 \div 12=\ldots{ }^{(18)}$ | $36 \div 12=\ldots{ }^{(28)}$ |
| $12 \times 9=\ldots$ | $120 \div 12=\ldots$ | $108 \div 12=\ldots$ |
| $2 \times 12=\ldots$ | $12 \div 12=\ldots{ }^{(20)}$ | $2 \times 12=\ldots$ |

## Jf you think you have trained hard enough to

 overcome the amazing Superman then speak to your teacher... he is waiting...

Jf you win, then stick your certificate here and reflect on any areas you are strong at or may need to work on Gefore you move forward.


## HOW TO MULTIPLY DECIMALS

I. Multiply normally, ignoring the decimal points.
2. Then put the decimal point in the answer - it will have as many decimal places as the two original numbers combined.

Example : Multiply 0.03 by I.I

| start with : | $0.03 \times I . I$ |
| :--- | :--- |
| multiply without decimal points: | $3 \times 1 I=33$ |
| 0.03 has 2 decimal places, |  |
| and I.I has I decimal place, |  |
| so the answer has 3 decimal places: 0.033 |  |

## DIVIDING A DECIMAL NUMBER BY A WHOLE NUMBER

I. Use Division or Long Division (ignoring the decimal point)
2. Then put the decimal point in the same spot as the dividend (the number being divided)

Example: Divide 9.I by 7

Ignore the decimal
point and use
Long Division :
13
$7 \longdiv { 9 1 }$
$\frac{7}{21}$

Put the decimal point in the answer directly above the answer directly above the
decimal point in the dividend :

1.3
$7 \longdiv { 9 . 1 }$

The answer is:
1.3

## DIVIDING BY DECIMAL NUMBER

I. Change the number we are dividing by to a whole number first, by shifting the decimal point of both numbers to the right:
2. It is safe to do this if we remember to shift the decimal point of both numbers the same number of places.

Example: divide 6.4 by 0.4
6.4/0.4 is exactly the same as $64 / 4$, as we moved the decimal point of both numbers. Now we can calculate:

Move I
So the answer is:
$6.4 / 0.4=16$
$6.4 \longrightarrow 64$
$0.4 \longrightarrow 4$
Are there really 16 lots of 0.4 in 6.4 ? Let's see:


One minute brain training.
Column A
$4 \times 10=$
$9 \times 10=$
$7 \times 10=$
$2 \times 10=$
$6 \times 10=$
$8 \times 10=$
$1 \times 10=$
$12 \times 10=$
$24 \times 10=$
$56 \times 10=$
$73 \times 10=$
$82 \times 10=$
$132 \times 10=$
$27 \times 10=$
$49 \times 10=$
$379 \times 10=$
$33 \times 10=$
$732 \times 10=$
$444 \times 10=$
$80 \times 10=$

Column B
$4 \times 100=$
$8 \times 100=$
$6 \times 100=$
$9 \times 100=$
$7 \times 100=$
$5 \times 100=$
$3 \times 100=$
$15 \times 100=$
$27 \times 100=$
$63 \times 100=$
$92 \times 100=$
$11 \times 100=$
$121 \times 100=$
$17 \times 100=$
$32 \times 100=$
$124 \times 100=$
$45 \times 100=$
$320 \times 100=$
$560 \times 100=$
$75 \times 100=$

## Column C

$4 \times 1000=$
$1 \times 1000=$ 10
$7 \times 1000=$ 17
$8 \times 1000=$ 29
$6 \times 1000=$ 2
$9 \times 1000=$ 28
$5 \times 1000=$ 9
$13 \times 1000=$ 19
$36 \times 1000=$ 93
$71 \times 1000=$ 70
$90 \times 1000=$ 712
$16 \times 1000=201$
$144 \times 1000=333$
$150 \times 1000=76$
$83 \times 1000=46$
$241 \times 1000=87$
$78 \times 1000=45$
$57 \times 1000=473$
$820 \times 1000=74$
$62 \times 1000=165$

Column D

| $6 \times 100$ | $=$ | $76 \times 1000=$ |  |
| :---: | :---: | :---: | :---: |
| $10 \times 1000$ | $=$ | $46 \times 10=$ |  |
| $17 \times 10$ | $=$ | $87 \times 100=$ |  |
| $29 \times 100$ | $=$ | $45 \times 1000=$ |  |
| $2 \times 1000$ | $=$ | $473 \times 10=$ |  |
| $28 \times 10$ | $=$ | $74 \times 100=$ |  |
| $9 \times 100$ | $=$ | $165 \times 1000=$ |  |
| $19 \times 1000$ | $=$ |  |  |
| $93 \times 10$ | $=$ |  |  |
| $70 \times 100$ | $=$ |  |  |
| $712 \times 1000$ | $=$ |  |  |
| $201 \times 10$ | $=$ |  |  |
| $333 \times 100$ | $=$ |  |  |

## Multiplying by 10, 100 and 1,000

Complete the table to show how you're using multiplication to convert the following measurements (the first one has been done for you):

| Original <br> measurement | Convert to | Multiply by | Answer |
| :--- | :--- | :--- | :--- |
| $\mathbf{2}$ metres | centimetres | $\mathbf{1 0 0}$ | $\mathbf{2 0 0} \mathbf{~ c m}$ |
| 15 kilograms | grams |  |  |
| 75 centimetres | millimetres |  |  |
| 4 litres | millilitres |  |  |
| 3.5 metres | centimetres |  |  |
| 12.5 kilometres | metres |  |  |
| 8.5 litres | millilitres | grams |  |
| 1.5 kilograms | centimetres |  |  |
| 0.4 metres | millimetres |  |  |
| 2.5 centimetres | millimetres |  |  |
| 2 metres | grams |  |  |
| 0.75 kilograms |  |  |  |
| 3 tonnes | kilograms |  |  |

Now check your answers - as well as checking the answer column, check that you've multiplied by the correct number.

Dividing by Multiples of Negative Powers of Ten (A) Single-Digit Facts

| 14 | $\div$ | 7 | = | 16 | $\div$ | 2 | = |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 | $\div$ | 0.7 | = | 16 | $\div$ | 0.2 | = |
| 14 | $\div$ | 0.07 | = | 16 | $\div$ | 0.02 | = |
| 14 | $\div$ | 0.007 | = | 16 | $\div$ | 0.002 | = |
| 14 | $\div$ | 0.0007 | = | 16 | $\div$ | 0.0002 | = |
| 18 | $\div$ | 6 | = | 63 | $\div$ | 9 | = |
| 18 | $\div$ | 0.6 | = | 63 | $\div$ | 0.9 | = |
| 18 | $\div$ | 0.06 | = | 63 | $\div$ | 0.09 | = |
| 18 | $\div$ | 0.006 | = | 63 | $\div$ | 0.009 | = |
| 18 | $\div$ | 0.0006 | = | 63 | $\div$ | 0.0009 | = |
| 9 | $\div$ | 1 | = | 12 | $\div$ | 3 | = |
| 9 | $\div$ | 0.1 | = | 12 | $\div$ |  | = |
| 9 | $\div$ | 0.01 | = | 12 | $\div$ | 0.03 | = |
| 9 | $\div$ | 0.001 | = | 12 | $\div$ | 0.003 | = |
| 9 | $\div$ | 0.0001 | = | 12 | $\div$ | 0.0003 | = |
| 42 | $\div$ | 7 | = | 35 | $\div$ | 7 | = |
| 42 | $\div$ | 0.7 | = | 35 | $\div$ |  | = |
| 42 | $\div$ | 0.07 | = | 35 | $\div$ | 0.07 | = |
| 42 | $\div$ | 0.007 | = | 35 | $\div$ | 0.007 | = |
| 42 | $\div$ | 0.0007 | $=$ | 35 | $\div$ | 0.0007 | = |
| 2 | $\div$ | 2 | = | 936 | $\div$ | 8 | = |
| 2 | $\div$ | 0.2 | = | 936 | $\div$ |  | = |
| 2 | $\div$ | 0.02 | = | 936 | $\div$ | 0.08 | = |
| 2 | $\div$ | 0.002 | = | 936 | $\div$ | 0.008 | = |
| 2 | $\div$ | 0.0002 | = | 936 | $\div$ | 0.0008 | = |
|  |  |  |  | Challenge |  |  |  |

Dividing by Multiples of Positive Powers of Ten (B) Single-Digit Facts

| $8 \div 2$ | $=$ | $6 \div 2$ | $=$ |
| :--- | :--- | :--- | :--- | :--- |
| $8 \div 20$ | $=$ | $6 \div 20$ | $=$ |
| $8 \div 200$ | $=$ | $6 \div 200$ | $=$ |
| $8 \div 2,000$ | $=$ | $6 \div 2,000$ | $=$ |
| $8 \div 20,000$ | $=$ | $6 \div 20,000$ | $=$ |


| $48 \div 6$ | $=$ | $8 \div 4$ | $=$ |
| :--- | :--- | :--- | :--- | :--- |
| $48 \div 60$ | $=$ | $8 \div 40$ | $=$ |
| $48 \div 600$ | $=$ | $8 \div 400$ | $=$ |
| $48 \div 6,000$ | $=$ | $8 \div 4,000$ | $=$ |
| $48 \div 60,000$ | $=$ | $8 \div 40,000$ | $=$ |


| $18 \div 3$ | $=$ | $10 \div 2$ | $=$ |
| :--- | :--- | :--- | :--- | :--- |
| $18 \div 30$ | $=$ | $10 \div 20$ | $=$ |
| $18 \div 300$ | $=$ | $10 \div 200$ | $=$ |
| $18 \div 3,000$ | $=$ | $10 \div 2,000$ | $=$ |
| $18 \div 30,000$ | $=$ | $10 \div 20,000$ | $=$ |


| $8 \div 8$ | $=$ | $18 \div 2$ | $=$ |
| :--- | :--- | :--- | :--- | :--- |
| $8 \div 80$ | $=$ | $18 \div 20$ | $=$ |
| $8 \div 800$ | $=$ | $18 \div 200$ | $=$ |
| $8 \div 8,000$ | $=$ | $18 \div 2,000$ | $=$ |
| $8 \div 80,000$ | $=$ | $18 \div 20,000$ | $=$ |


| $63 \div 9$ | $=$ | $156 \div 2$ | $=$ |
| :--- | :--- | :--- | :--- |
| $63 \div 90$ | $=$ | $156 \div 20$ | $=$ |
| $63 \div 900$ | $=$ | $156 \div 200$ | $=$ |
| $63 \div 9,000$ | $=$ | $156 \div 2,000$ | $=$ |
| $63 \div 90,000$ | $=$ | $156 \div 20,000$ | $=$ |
|  |  | Challenge |  |

## Dividing by Multiples of Powers of Ten (A)

| $140 \div 2$ | $=$ | $88 \div 8$ | $=$ |
| ---: | :--- | ---: | :--- |
| $1,400 \div 20$ | $=$ | $880 \div 80$ | $=$ |
| $14,000 \div 200$ | $=$ | $8,800 \div 800$ | $=$ |
| $140,000 \div 2,000$ | $=$ | $88,000 \div 8,000$ | $=$ |
| $16 \div 2$ | $=$ | $10,800 \div 9$ | $=$ |
| $160 \div 20$ | $=$ | $108,000 \div 90$ | $=$ |
| $1,600 \div 200$ | $=$ | $1,080,000 \div 900$ | $=$ |
| $16,000 \div 2,000$ | $=$ | $10,800,000 \div 9,000$ | $=$ |
| $60 \div 3$ | $=$ | $132 \div 11$ | $=$ |
| $600 \div 30$ | $=$ | $1,320 \div 110$ | $=$ |
| $6,000 \div 300$ | $=$ | $13,200 \div 1,100$ | $=$ |
| $60,000 \div 3,000$ | $=$ | $132,000 \div 11,000$ | $=$ |
| $1,800 \div 3$ | $=$ | $132 \div 12$ | $=$ |
| $18,000 \div 30$ | $=$ | $1,320 \div 120$ | $=$ |
| $180,000 \div 300$ | $=$ | $13,200 \div 1,200$ | $=$ |
| $1,800,000 \div 3,000$ | $=$ | $132,000 \div 12,000$ | $=$ |
| $88,000 \div 11$ | $=$ | $8,000 \div 8$ | $=$ |
| $800,000 \div 110$ | $=$ | $80,000 \div 80$ | $=$ |
| $8,800,000 \div 1,100$ | $=$ | $800,000 \div 800$ | $=$ |
| $88,000,000 \div 11,000$ | $=$ | $8,000,000 \div 8,000$ | $=$ |
| $45 \div 5$ |  | $1,600 \div 4$ | $=$ |
| $450 \div 50$ | $=$ | $16,000 \div 40$ | $=$ |
| $4,500 \div 500$ | $=$ | $160,000 \div 400$ | $=$ |
| $45,000 \div 5,000$ | $=$ | $1,600,000 \div 4,000$ | $=$ |

Multiplying by Multiples of Negative Powers of Ten (D) Single-Digit Facts

| 7 | x | 9 | = | 9 | $x$ | 3 | = |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | x | 0.9 | = | 9 | X | 0.3 | = |
| 7 | x | 0.09 | = | 9 | $x$ | 0.03 | = |
| 7 | x | 0.009 | = | 9 | $x$ | 0.003 | = |
| 7 | X | 0.0009 | = | 9 | X | 0.0003 | = |
| 6 | x | 6 | = | 2 | $x$ | 7 | $=$ |
| 6 | $x$ | 0.6 | = | 2 | x | 0.7 | = |
| 6 | $x$ | 0.06 | = | 2 | x | 0.07 | = |
| 6 | $x$ | 0.006 | = | 2 | x | 0.007 | = |
| 6 | x | 0.0006 | = | 2 | x | 0.0007 | = |
| 1 | x | 7 | = | 4 | x | 8 | = |
| 1 | x | 0.7 | = | 4 | x | 0.8 | = |
| 1 | x | 0.07 | = | 4 | x | 0.08 | = |
| 1 | x | 0.007 | = | 4 | x | 0.008 | = |
| 1 | x | 0.0007 | = | 4 | x | 0.0008 | = |
| 3 | x | 2 | = | 8 | $x$ | 4 | = |
| 3 | x | 0.2 | = | 8 | $x$ | 0.4 | = |
| 3 | x | 0.02 | = | 8 | $x$ | 0.04 | = |
| 3 | $x$ | 0.002 | = | 8 | $x$ | 0.004 | = |
| 3 | x | 0.0002 | = | 8 | $x$ | 0.0004 | = |
| 5 | x | 3 | = | 13 | x | 3 | = |
| 5 | x | 0.3 | = | 13 | x | 0.3 | = |
| 5 | x | 0.03 | = | 13 | $x$ | 0.03 | = |
| 5 | x | 0.003 | = | 13 | x | 0.003 | = |
| 5 | x | 0.0003 | = | 13 | x | 0.0003 | = |
|  |  |  |  | Challenge |  |  |  |

Multiplying by Multiples of Negative Powers of Ten (A)

| $30 \times 3$ | $=$ | $1,000 \times 12$ | $=$ |
| ---: | :--- | ---: | :--- |
| $300 \times 0.3$ | $=$ | $10,000 \times 1.2$ | $=$ |
| $3,000 \times 0.03$ | $=$ | $100,000 \times 0.12$ | $=$ |
| $30,000 \times 0.003$ | $=$ | $1,000,000 \times 0.012$ | $=$ |
| $3,000 \times 6$ | $=$ | $500 \times 2$ | $=$ |
| $30,000 \times 0.6$ | $=$ | $5,000 \times 0.2$ | $=$ |
| $300,000 \times 0.06$ | $=$ | $50,000 \times 0.02$ | $=$ |
| $3,000,000 \times 0.006$ | $=$ | $500,000 \times 0.002$ | $=$ |
| $8,000 \times 2$ | $=$ | $80 \times 6$ | $=$ |
| $80,000 \times 0.2$ | $=$ | $800 \times 0.6$ | $=$ |
| $800,000 \times 0.02$ | $=$ | $8,000 \times 0.06$ | $=$ |
| $8,000,000 \times 0.002$ | $=$ | $80,000 \times 0.006$ | $=$ |
| $700 \times 12$ | $=$ | $50 \times 11$ | $=$ |
| $7,000 \times 1.2$ | $=$ | $500 \times 1.1$ | $=$ |
| $70,000 \times 0.12$ | $=$ | $5,000 \times 0.11$ | $=$ |
| $700,000 \times 0.012$ | $=$ | $50,000 \times 0.011$ | $=$ |
| $600 \times 4$ | $=$ | $800 \times 9$ | $=$ |
| $6,000 \times 0.4$ | $=$ | $8,000 \times 0.9$ | $=$ |
| $60,000 \times 0.04$ | $=$ | $80,000 \times 0.09$ | $=$ |
| $600,000 \times 0.004$ | $=$ | $800,000 \times 0.009$ | $=$ |
| $3,000 \times 10$ | $=$ | $800 \times 2$ | $=$ |
| $30,000 \times 1$ | $=$ | $8,000 \times 0.2$ | $=$ |
| $300,000 \times 0.1$ | $=$ | $80,000 \times 0.02$ | $=$ |
| $3,000,000 \times 0.01$ | $=$ | $800,000 \times 0.002$ | $=$ |

Multiplying by Multiples of Negative Powers of Ten (E)

| $70 \times 12$ | = | $500 \times 4$ |
| :---: | :---: | :---: |
| $700 \times 1.2$ | = | $5,000 \times 0.4$ |
| $7,000 \times 0.12$ | = | $50,000 \times 0.04$ |
| $70,000 \times 0.012$ | = | $500,000 \times 0.004$ |
| $20 \times 6$ | = | $6,000 \times 10$ |
| $200 \times 0.6$ | = | 60,000 x 1 |
| $2,000 \times 0.06$ | $=$ | 600,000 x 0.1 |
| $20,000 \times 0.006$ | $=$ | 6,000,000 x 0.01 |
| $9 \times 6$ | = | $7,000 \times 12$ |
| $90 \times 0.6$ | = | $70,000 \times 1.2$ |
| $900 \times 0.06$ | = | $700,000 \times 0.12$ |
| $9,000 \times 0.006$ | $=$ | 7,000,000 $\times 0.012$ |
| $300 \times 2$ | = | $9,000 \times 11$ |
| $3,000 \times 0.2$ | = | $90,000 \times 1.1$ |
| $30,000 \times 0.02$ | = | $900,000 \times 0.11$ |
| $300,000 \times 0.002$ | $=$ | 9,000,000 x 0.011 |
| $50 \times 3$ | = | $11,000 \times 2$ |
| $500 \times 0.3$ | = | $110,000 \times 0.2$ |
| $5,000 \times 0.03$ | = | 1,100,000 x 0.02 |
| $50,000 \times 0.003$ | $=$ | $11,000,000 \times 0.002$ |
| $4 \times 11$ | $=$ | $70 \times 11$ |
| $40 \times 1.1$ | = | $700 \times 1.1$ |
| $400 \times 0.11$ | = | $7,000 \times 0.11$ |
| $4,000 \times 0.011$ | = | $70,000 \times 0.011$ |

Jf you think you have trained hard enough to overcome the terrifying Catwoman then speak to your teacher... this one may be tricky...


Jf you win, then stick your certificate here and reflect on any areas you are strong at or may need to work on before you move forward.

> IRONMAN IS GOING TO TEST YOUR POWERS OF MENTAL MULTIPLICATION; YOU NEED TO BE ABLE TO MULTIPLY 2 DIGIT NUMBERS BY SINGLE DIGIT NUMBERS.. IN YOUR HEAD! DO NOT WORRY THOUGH-THERE IS A SIMPLE WAY OF DOING THIS THAT I KNOW YOU CAN DO WITH A LITTLE BIT OF PRAGIISE. MAYBE YOU CAN HELP ME TO FINALIY DEFEAT HIM!

## TRAINING TIPS AND TRICKS



Remember, we can multiply a two digit number by a single digit number by breaking it
down into three steps:
l. separating the two digit number into tens and units
2. multiplying both of these by the single digit number
3. adding the two results together:


## Multiplying 1 and 5 by Teen Numbers

## Example <br> $17 \times 5$

Partition the 2-digit $17=10$ and 7 number:
Multiply each part by 5 :
Add the two parts
$10 \times 5=50$
$7 \times 5=35$
back together:
$50+35=85$

## Example

Partition the 2-digit $14=10$ and 4 number:
Multiply each part $10 \times 2=20$ by 5:
Add the two parts
$4 \times 2=8$ back together:
$2 \times 14$
$20+8=\mathbf{2 8}$

- Complete the following using the above method

| $\begin{aligned} & 14 \times 5=70 \\ & 10 \times 5=50 \\ & 4 \times 5=20 \\ & 50+20=70 \end{aligned}$ | $\begin{aligned} & 18 \times 2= \\ & 10 \times 2= \\ & 8 \times 2= \end{aligned}$ | $\begin{aligned} & 5 \times 11= \\ & 5 \times 10= \\ & 5 \times 1= \end{aligned}$ |
| :---: | :---: | :---: |
| $\begin{aligned} & 2 \times 19= \\ & 2 \times 10= \\ & 2 \times 9= \end{aligned}$ | $\begin{aligned} & 5 \times 12= \\ & 5 \times 10= \\ & 5 \times 2= \end{aligned}$ $\qquad$ $\qquad$ $\qquad$ | $\begin{aligned} & 17 \times 2= \\ & 10 \times 2= \\ & 7 \times 10= \end{aligned}$ $\qquad$ $\qquad$ $\qquad$ |
| $\begin{aligned} & 16 \times 5= \\ & 10 \times 5= \\ & 6 \times 5= \end{aligned}$ | $\begin{aligned} & 2 \times 15= \\ & 2 \times 10= \\ & 2 \times 5= \end{aligned}$ | $\begin{aligned} & 5 \times 13= \\ & 5 \times 10= \\ & 5 \times 3= \end{aligned}$ |
| $12 \times 2=$ | $15 \times 5=$ | $2 \times 16=$ |

## Multiplication using Partitioning

Please set out your work like this: the next step is to do it mentally and this will help you.

$$
\begin{aligned}
& 25 \times 3=T U \\
& 25 \\
& \times \quad 3 \\
& \hline 60 \\
& \hline(20 \times 3) \\
&+75 \\
& \hline 75
\end{aligned}
$$

Keep your numbers in the correct columns!

Section A ( 2 digits $x 1$ digit, 2s, 3s, 4s and 5s )

1) $12 \times 5$
2) $61 \times 2$
3) $44 \times 3$
4) $18 \times 4$
5) $29 \times 5$
6) $73 \times 2$
7) $16 \times 3$
8) $94 \times 4$
9) $25 \times 2$
10) $52 \times 5$
11) $23 \times 5$
12) $47 \times 3$
13) $82 \times 2$
14) $13 \times 5$
15) $54 \times 4$

Section B ( 2 digits $\times 1$ digit, $6 s, 7 s, 8 s$ and $9 s$ )

1) $62 \times 7$
2) $28 \times 9$
3) $31 \times 6$
4) $14 \times 8$
5) $39 \times 9$
6) $72 \times 6$
7) $21 \times 7$
8) $85 \times 9$
9) $27 \times 8$
10) $34 \times 8$
11) $49 \times 7$
12) $17 \times 6$
13) $77 \times 8$
14) $58 \times 9$
15) $22 \times 7$

## Multiplying two digit numbers by single digit numbers (HT numbers $x$ T numbers)

Remember, we can multiply a two digit number by a single digit number by separating the two digit number into tens and units, and multiplying both of these by the single digit number, then adding the two results together:
$16 \times 5 \longrightarrow$ separate 16 into tens and units, and multiply each by the single digit number, 5
$(10 \times 5)+(6 \times 5) \longrightarrow$ work each of these out
$(50)+(30) \longrightarrow$ and add them together!
$16 \times 5=80$

Work out the following multiplications:

| $17 \times 5$ | $14 \times 4$ |
| :--- | :--- |
| $12 \times 9$ | $14 \times 5$ |
| $15 \times 3$ | $13 \times 9$ |
| $12 \times 5$ | $13 \times 5$ |
| $19 \times 3$ |  |

Five people have thirteen apples each. How many apples are there altogether?

A school has seven classrooms. There are twelve children in each one. How many children are there in the whole school?
$73 \times 5=\square$
$75 \times 3=\square$
$22 \times 5=\square$
$28 \times 6=\square$
$30 \times 6=\square$
$12 \times 3=\square$
$87 \times 7=\square$
$56 \times 2=\square$
$37 \times 8=\square$
$74 \times 6=\square$
$35 \times 7=\square$
$82 \times 3=\square$
$96 \times 3=\square$
$14 \times 2=\square$
$75 \times 7=\square$
$99 \times 7=$ $\square$
$65 \times 8=\square$
$61 \times 2=\square$
$56 \times 8=\square$
$83 \times 5=\square$
$68 \times 8=\square$
$12 \times 7=\square$
$14 \times 3=\square$ $\square$
$48 \times 8=\square$
$41 \times 4=\square$
$21 \times 3=\square$
$78 \times 9=\square$
$98 \times 2=\square$
$42 \times 4=\square$
$20 \times 6=\square$

Multiplying 10s by 1 digit number:

| $30 \times 2=$ | $30 \times 5=$ | $60 \times 3=$ |
| :---: | :---: | :---: |
| $20 \times 8=$ | $20 \times 3=$ | $40 \times 9=$ |
| $10 \times 2=$ | $50 \times 7=$ | $60 \times 8=$ |
| $20 \times 4=$ | $80 \times 2=$ | $40 \times 5=$ |

Multiplication to 100:
$4 \times 6=\square$
$2 \times 6=\square$
$6 \times 4=\square$
$5 \times 8=\square$
$8 \times 10=\square$
$2 \times 3=\square$
$8 \times 5=\square$
$9 \times 4=\square$
$8 \times 3=\square$
$3 \times 8=\square$
$5 \times 10=\square$
$6 \times 9=\square$

Adding partial products:
$+360$
$\square$

8
6

12

$$
+160
$$


48
+320

24


## Multiplication

1) 36
2) 49
3) 78
4) 56

5) 77
6) 14
7) 65
8) 97

9) 30
10) 12
11) 69
12) 96

13) 22
14) 73
15) 91
16) 86

17) 58
18) 63
19) 32
20) 49


## Multiplication Problems

Write the sum and find the answer.


1) There are 42 crayons in a pot. How many crayons in 5 pots?
2) There are 72 wings on one bird. How many wings on 9 birds?

3) One banana costs 10p. How much do twenty-three bananas cost?
4) There are 5 points on one star. How
 many points on 58 stars?
5) There are six people in the running team. How many people in 29 teams?

6) Apples cost $9 p$ each. How much for 25 apples?
7) There are 4 leaves on each plant. How many leaves on 73 plants?

## Multiplication


2) 89
3) 65
4) 47

5) 97
6) 46

7) 72
8) 37

9) 51
10) 34
11) 67
12) 15

$\qquad$
13) 83
14) 95
$\times 6$

15) 17
16) 50

$\qquad$
17) 26

18) 73
19) 64
20) 19
$\qquad$


## Jf you think you have trained hard enough to

 overcome Jronman then have a chat with your teacher. Only two more to go now!

If you win, then stick your certificate here and reflect on any areas you are strong at or may need to work on Gefore you move onto the last hero!

YOU ARE SO CLOSE TO BECOMING A MASTER OF MATHS- THERE IS ONLY WONDER WOMAN LEFT TO BEAT! USE THESE TIPS AND, WITH SOME HARD WORK, YOU WILL BE ABLE TO OVERCOME HER!

## FINDING FRACTIONS OF AMOUNTS

When thinking about fractions, decimals and percentages we need to remember that they all show how many parts of a whole we have. To find the fraction of an amount you need to:
I. Divide by the denominator
2. Multiply by the numerator

To explain why this works, take this example: Myra has $2 I$ sweets and gives $4 / 7$ to a friend. How many does she give away?


Find out what $1 / 7$ is (divide by the denominator) $2 \mathrm{I} \div 7=3$ so $\mathrm{I} / 7=3$

$\frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7}$

Find the total of the parts you need (multiply by the numerator) $3 \times 4=12$ so $4 / 7=12$

## FINDING THE WHOLE FROM A FRACTION

Again, the key thing here is to remember that fractions, decimals and percentages all mean parts of a whole.
If we know what the part of the whole is, we can use this to work out the complete whole by:
I. Find what $\mathrm{I} / \mathrm{n}$ is: (divide by the numerator)
2. Find $n / n$ (multiply by the denominator)

Consider this example: Adri has won $2 / 3$ of his races so far.
If he has won 36 in total, what is the maximum he could have won? Take a look at the fraction strips to the right to see how this problem can be approached.

| $1 / 3$ | 18 | $1 / 3$ | 18 |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  | $-\cdots \cdots \cdots$ |

I. First we need to find what $1 / 3$ is: $2 / 3=36$ so $1 / 3=36 \div 2=18$

| $1 / 3$ | 18 | $1 / 3$ | 18 |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

2. Now let's find out the whole (3/3) $3 / 3=18 \times 3=54$

## FUN FACT!

Remember your work on order of operations? You should know that division and multiplication are as important as each other so they happen at the same time. With fractions of amounts, this means that you can do either operation first and get the same result! Let's look at the two examples we have already seen:
I. Option I: $2 \boldsymbol{I} \div 7=3,3 \times 4=\mathbf{I} 2$ or the opposite: $2 I \times 4=84,84 \div 7=\mathbf{I} \mathbf{2}$
2. Option $I: 36 \div 2=18, I 8 \times 3=54$ or the opposite: $36 \times 3=108,108 \div 2=54$

As long as we only change the order of operations, the answer stays the same; pretty cool eh?!

| $\begin{gathered} 1 \text { Whole } \\ 1.0 \\ 100 \% \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 1 / 2 \\ 0.5 \\ 50 \% \end{gathered}$ |  |  |  |  |  |  | $\begin{gathered} 1 / 2 \\ 0.5 \\ 50 \% \\ \hline \end{gathered}$ |  |  |  |  |  |  |
| $\begin{gathered} 1 / 3 \\ 0.333 \\ 33.3 \% \end{gathered}$ |  |  |  | $\begin{gathered} 1 / 3 \\ 0.333 \\ 33.3 \% \end{gathered}$ |  |  |  |  |  | $\begin{gathered} 1 / 3 \\ 0.333 \\ 33.3 \% \end{gathered}$ |  |  |  |
| $\begin{gathered} 1 / 4 \\ 0.25 \\ 25 \% \end{gathered}$ |  |  | $\begin{aligned} & 1 / 4 \\ & 0.25 \\ & 25 \% \end{aligned}$ |  |  |  | $\begin{gathered} 1 / 4 \\ 0.25 \\ 25 \% \end{gathered}$ |  |  |  | $\begin{gathered} 1 / 4 \\ 0.25 \\ 25 \% \end{gathered}$ |  |  |
| $\begin{gathered} 1 / 5 \\ 0.2 \\ 20 \% \end{gathered}$ |  | $\begin{gathered} 1 / 5 \\ 0.2 \\ 20 \% \\ \hline \end{gathered}$ |  |  | $\begin{gathered} 1 / 5 \\ 0.2 \\ 20 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 5 \\ 0.2 \\ 20 \% \end{gathered}$ |  |  |  | $\begin{gathered} 1 / 5 \\ 0.2 \\ 20 \% \end{gathered}$ |  |
| $\begin{array}{r} 1 / 6 \\ 0.16 \\ 16.7 \end{array}$ | $\begin{aligned} & / 6 \\ & 167 \\ & .7 \% \end{aligned}$ | $\begin{gathered} 1 / 6 \\ 0.167 \\ 16.7 \% \end{gathered}$ |  | $\begin{gathered} 1 / 6 \\ 0.167 \\ 16.7 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 6 \\ 0.167 \\ 16.7 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 6 \\ 0.167 \\ 16.7 \% \end{gathered}$ |  | $\begin{gathered} 1 / 6 \\ 0.167 \\ 16.7 \% \end{gathered}$ |  |
| $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |  | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |  | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |  | $\begin{gathered} 1 / 7 \\ 0.143 \\ 14.3 \% \end{gathered}$ |
| $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |  | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |  | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |  | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |  | $\begin{gathered} 1 / 8 \\ 0.125 \\ 12.5 \% \end{gathered}$ |
| $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ |  | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ |  |  | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ |  | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ |  | $\begin{gathered} 1 / 9 \\ 0.111 \\ 11.1 \% \end{gathered}$ |
| $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \\ \hline \end{gathered}$ |  | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ |  | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ |  | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \end{gathered}$ |  | $\begin{gathered} 1 / 10 \\ 0.1 \\ 10 \% \\ \hline \end{gathered}$ | $1 / 10$ 0.1 $10 \%$ |
| $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $1 / 11$  <br>  0.09 <br>  $9.1 \%$ |  | $1 / 11$ 0.09 $9.1 \%$ | 11 1 <br> $\%$ 0.0 <br> $\%$ 9 | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ |  | $1 / 11$ <br> 091 <br> $1 \%$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ | $\begin{gathered} 1 / 11 \\ 0.091 \\ 9.1 \% \end{gathered}$ |
| $\begin{array}{\|c} 1 / 12 \\ 0.083 \\ 8.3 \% \end{array}$ | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $\begin{array}{\|c\|} 1 / 12 \\ 0.083 \\ 8.3 \% \end{array}$ | $1 / 12$ <br> 0.083 <br> 8.3 |  | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $1 / 12$ <br> 0.083 <br> 8.3 |  | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ | $\begin{gathered} 1 / 12 \\ 0.083 \\ 8.3 \% \end{gathered}$ |  |

Fractions, decimals and percentages are different ways of presenting the same information; they all mean "parts of a whole". Use these fraction strips to help you convert between them.

## Finding Fractions of Numbers and Shapes.

To find a fraction of a number you divide by the bottom number and multiply by the top number. This is because the denominator tells us how much to break the whole into and the numerator tells us how much of the whole we are talking about.

## To find $3 / 4$ of 12 :

$12 \div 4=3$
(Divide the whole by the denominator)
$3 \times 3=9$
(Multiply the answer by the numerator)

$$
\text { So } 3 / 4 \text { of } 12=9
$$

The whole 12 has be shared out between 4 Each of the boxes contains $1 / 4$ of the whole 12.


We are asked to find $3 / 4$ of the whole so we must look at 3 of the 4 boxes. $3 / 4$ of 12 is 9

Use this method to help you answer these questions.

1. $1 / 5$ of $30=$ $\qquad$ 6. $2 / 3$ of $27=$ $\qquad$ $11.7 / 8$ of $48=$ $\qquad$
2. $1 / 8$ of $16=$ $\qquad$ 7. $2 / 5$ of $25=$ $\qquad$ 12. $2 / 3$ of $36=$ $\qquad$
3. $5 / 6$ of $18=$
4. $3 / 8$ of $40=$ $\qquad$ 13. $3 / 4$ of $48=$ $\qquad$
5. $4 / 5$ of $30=$ $\qquad$ 9. $3 / 4$ of $36=$ $\qquad$ 14. $4 / 5$ of $45=$ $\qquad$
6. $7 / 8$ of $32=$ $\qquad$ 10.5 of $36=$ $\qquad$ 15. $3 / 8$ of $72=$ $\qquad$

Now shade the correct amount of these shapes.

|  |  |
| :--- | :--- |
|  |  |
|  |  |

## Percentages

    % TO DECIMALS
    % TO DECIMALS
    25% = 怗
25% = 怗
100
100
=25\div100
=25\div100
=0.25
=0.25

Change the following percentages to decimals.

## DECIMALS TO \%

$0.63=\underline{63}$
100
$=63 \%$

1. $40 \%=$ $\qquad$
2. $65 \%=$ $\qquad$
3. $75 \%=$ $\qquad$ 4. $9 \%=$ $\qquad$
4. $93 \%=$ $\qquad$
5. $20 \%=$ $\qquad$
6. $6 \%=$ $\qquad$
7. $50 \%=$ $\qquad$

Change these decimals to percentages.

1. $0.01=$ $\qquad$
2. $0.44=$ $\qquad$
3. $0.65=$ $\qquad$ 4. $0.5=$ $\qquad$
4. $0.8=$ $\qquad$
5. $0.75=$ $\qquad$
\% TO FRACTIONS

$$
\begin{aligned}
& 45 \%=\frac{45}{100} \div 5 \\
&=\underline{9} \\
& 20
\end{aligned}
$$

Change these percentages to fractions.

1. $60 \%=$ $\qquad$
2. $55 \%=$ $\qquad$
3. $10 \%=$ $\qquad$
4. $48 \%=$ $\qquad$
5. $29 \%=$ $\qquad$
6. $5 \%=$
$\qquad$

Change these fractions to percentages.


1. $\frac{1}{4}=$ $\qquad$
2. $18=$ 20
3. $\underline{3}=$ $\qquad$
5
4. $\frac{1}{5}=$ $\qquad$
5. $\underline{3}=$ $\qquad$
6. $1=$ $\qquad$ 2

Change these fractions to decimals.

1. $\frac{1}{4}=$ $\qquad$ 2. $\frac{1}{5}=$ $\qquad$
2. $1=$ $\qquad$ 2
3. $\frac{5}{8}=$ $\qquad$
4. $\underline{3}=$ $\qquad$
5
5. $13=$ $\qquad$ 20

Change these decimals to fractions.

1. $0.05=$ $\qquad$
2. $0.34=$ $\qquad$

What amount is shaded? Write your answer as a fraction, decimal and percentage.


## Comparing Fractions and Decimals

Compare the following fractions and decimals by using $>$, < or $=$

| 1.2 | 13/9 | 1.5 | 16/11 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 24/12 | 2.3 | 33/8 | 3.8 |  |  |
| 7.5 | 74/7 | 1.8 | 14/5 |  |  |
| 44/11 | 4.3 | 15/7 | 1.6 | 54/11 | 5.5 |
| 1.9 | 1\% | 2.2 | 2²/7 | 1.6 | 14/6 |
| 15/6 | 1.8 | $12 / 3$ | 1.7 | $13 / 9$ | 1.3 |
| 8.2 | 82/17 | 1.4 | 18/20 | 2.9 | $21 / 2$ |
| $43 / 12$ | 1.2 | $13 / 5$ | 1.7 | 12/13 | 1.2 |
| 1.1 | 11111 | 3.4 | 34/9 | 5.2 | 51/8 |
| 43/7 | 4.4 | $11 / 6$ | 1.2 | 15/6 | 1.8 |

## Fractions of Numbers

Find the fractional value of each of the numbers below.
(1) What is $\frac{1}{3}$ of $36 ?$
(2) What is $\frac{1}{6}$ of 54 ?
(3) What is $\frac{4}{5}$ of 35 ?
(4) What is $\frac{1}{5}$ of 140 ?
(5) What is $\frac{9}{25}$ of $100 ?$
(6) What is $\frac{8}{15}$ of $135 ?$
(7) What is $\frac{1}{2}$ of $42 ?$
(8) What is $\frac{3}{20}$ of 60 ?
(9) What is $\frac{1}{2}$ of 70 ?
(10) What is $\frac{1}{7}$ of 63 ?
(11) What is $\frac{1}{2}$ of 30 ?
(12) What is $\frac{1}{2}$ of $56 ?$
(13) What is $\frac{1}{2}$ of $48 ?$
(14) What is $\frac{1}{3}$ of 45 ?
(15) What is $\frac{2}{5}$ of $50 ?$
(16) What is $\frac{1}{3}$ of 84 ?
(17) What is $\frac{1}{2}$ of 60 ?
(18) What is $\frac{7}{10}$ of $40 ?$
(19) What is $\frac{1}{3}$ of $72 ?$
(20) What is $\frac{13}{15}$ of $105 ?$
(21) What is $\frac{31}{45}$ of $90 ?$
(22) What is $\frac{2}{3}$ of 30 ?
(23) What is $\frac{1}{2}$ of $48 ?$
(24) What is $\frac{1}{2}$ of $36 ?$
(25) What is $\frac{3}{25}$ of $75 ?$
(26) What is $\frac{1}{2}$ of 48 ?

## Find the Whole from Part

1. Find the whole when part is know. Note closely the type of reasoning.

| a. $4 / 5$ of John's salary is $\$ 800$. 1/5 of his salary is \$ $\qquad$ His salary is $\$$ $\qquad$ . | b. $3 / 8$ of the books in a store is 630 books. 1/8 of the books is $\qquad$ In total, there are $\qquad$ books. |
| :---: | :---: |
| c. $30 \%$ of a shirt's price is $\$ 4.20$. $10 \%$ of the price is $\qquad$ <br> The whole price is $\qquad$ -. | d. $17 \%$ of the people is 221 people. $1 \%$ of the people is $\qquad$ people. There are $\qquad$ people in all. |

2. Find the whole when a part is known. First, find a smaller part, such as $10 \%$ or $1 \%$, then use that value to find the whole.

| a. $2 / 3$ of a number is 48 | b. $3 / 5$ of a number is 99 | c. $5 / 8$ of a number is 75 |
| :--- | :--- | :--- |
| d. $40 \%$ of a price is $\& 16$ | e. $90 \%$ of a salary is $\$ 1080$ | f. $70 \%$ of the people is <br> 161 people |
| g. $8 \%$ of a price is $\$ 2.40$ | h. $45 \%$ of the people is <br> 720 people | i.$19 \%$ of the water was <br> 1167 L |

3. Now $x$ represents the WHOLE amount, and it is divided into various parts. Solve for $x$



Use your knowledge and understanding to solve these percentage problems. Don't forget to show how you worked them out and check the units carefully!

| 1. $45 \%$ of | $=36 \mathrm{~m}$ | 11. $45 \%$ of | $=81 \mathrm{~mm}$ |
| :---: | :---: | :---: | :---: |
| 2. $35 \%$ of | $=7 \mathrm{~cm}$ | 12. $48 \%$ of | $=48 \mathrm{ml}$ |
| 3. $62 \%$ of | $=124 \mathrm{ml}$ | 13. $11 \%$ of | $=£ 13.31$ |
| 4. $24 \%$ of | $=£ 21.60$ | 14. $60 \%$ of | $=30$ inches |
| 5. $12 \%$ of | $=4.321$ | 15. $39 \%$ of | $=£ 29.25$ |
| 6. $15 \%$ of | $=£ 2.25$ | 16. $20 \%$ of | $=12 \mathrm{~kg}$ |
| 7. $20 \%$ of | $=12 \mathrm{~mm}$ | 17. $42 \%$ of | $=63 \mathrm{~g}$ |
| 8. $30 \%$ of | $=12 \mathrm{~km}$ | 18. $18 \%$ of | $=25.201$ |
| 9. $85 \%$ of | $=£ 72.25$ | 19. $27 \%$ of | $=51.301$ |
| 10. $55 \%$ of | $\ldots £ 44.55$ | 20. $31 \%$ of | $=£ 68.20$ |

## Percentage Increase \& Decrease

Fill in the gaps...
Percentage Increase

|  | Original Amount | \% Increase | New Amount | 9) | rigind mour | \% <br> Increase | New Amount |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1) | 56 | 25\% |  |  | 32 |  | 56 |
| 2) | 6 | 50\% |  | 10) | 24 | 25\% | 30 |
| 3) | 5 | 20\% |  | 11) | 15 |  | 18 |
| 4) | 8 | 75\% | 14 | 12) | 30 |  | 33 |
| 5) | 10 | 90\% |  | 13) | 150 |  | 153 |
| 6) | 30 | 70\% |  | 14) | 120 |  | 126 |
| 7) | 50 | $2 \%$ |  | 15) | 200 |  | 202 |
| 8) | 21 | 100\% |  | 16) | 20 |  | 50 |

## Percentage Decrease



You have Bracoby vearhod the poworkn WOOMOP WVOman: speak fo your feacher whem you are roady fo bocome a moils suporhorob



 coseb you do fo maks sure you achiove 8 ris

NOTES :

NOTES :

## The path to becoming a

## Superhero



The road will be long and each hero will do their best to make you falter. Do you have what it takes to succeed? Train hard to beat the bosses and achieve greatness; good Cuck Maths warrior!

