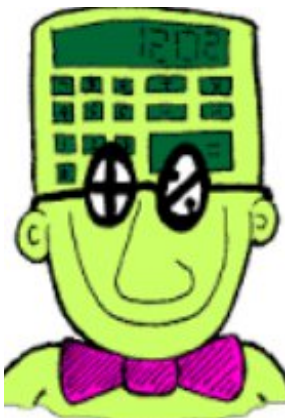


THE GREAT BOOK OF NUMBER MATHEMATICS GRADE 6



Owais Mohammad Ahmad

Table of Contents

Number Theory

Place Value	
Page 4	
Composite Numbers OR Prime Numbers	Page 9
Prime Factorizations.....	
Page 5	
Greatest Common Factor (G.C.F)	
Page 7	
Least Common Multiple (L.C.M)	
Page 8	

Addition, Subtraction, Multiplication and Division

Review- add and subtract whole number	Page 11
Multiply whole numbers	
Page 13	
Divisibility Rules	
Page 16	
Division of whole numbers	Page 17

Decimals Numbers

Decimal Place Value	
Page 51	
Addition and Subtractions of Decimals	Page 56
Number Lines of Decimals/ Ordering Decimal numbers	Page 60

Multiplication of Decimals Page 65

Division of Decimals
Page 69

Fractions

Understanding Fractions Page 25

Equivalent Fractions/ Reducing fractions to lower terms Page 28

Addition of fractions
Page 33

Subtractions of fractions Page 33

Multiplication of fractions Page 38

Division of fractions Page 42

Percentages/ Ratio

Understanding Percentages Page 22

Percentages of a quantity Page 23

Conversion

Convert between improper fractions and mixed numbers and Vice Versa..... Page 44

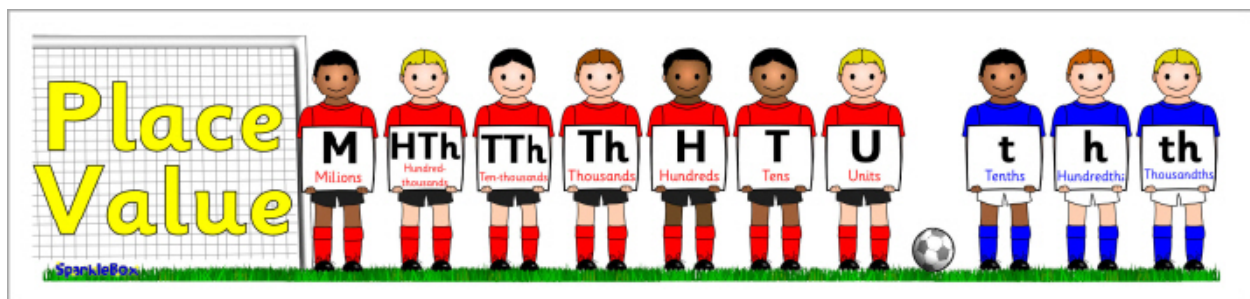
Convert Decimals to fractions..... Page 47

Converting Fractions to Decimals Page 47

Convert Percentages to Decimals and Vice Versa Page 49

Convert Fractions to Percentages and Vice Versa Page 49

NUMBER THEORY



Exercise 1:

Write each number in figures.

(a) Weight

Thirty-five thousand, four hundred kilograms

(b) Price

Forty thousand, four hundred and fifty Dollars

(c) Time

Fifty thousand, six hundred and seventy-six hours

(d) Distance

Eighty-nine thousand and seven kilometer

(e) Wiring

**One million, seven hundred and
seventy thousand meters**

(f) Time

**Seventy-four thousand, nine
hundred years**

Exercise 2:

Write each number in words.

(a) 37,056

(b) 1,400,334

(c) 400,004

(d) 4,056,030

(e) 13,000,003

Exercise 3:

What is the value of the red digit in each number?

(a) 57,**4**300

(b) **8**6,395

(c) **3**,594,768

(d) 8,834,9**50**

(e) **379**273402

Exercise 4:

Write the next 3 numbers in the sequence

(a) 10,000 20,000 30,000 40,000

(b) 130,000 120,000 110,000

(c) 600,000 700,000 800,000.....

(d) 495,000 595,000 695,000 795,000.....

(e) 294,000 395,000 496,000

NUMBER THEORY: PRIME FACTORIZING

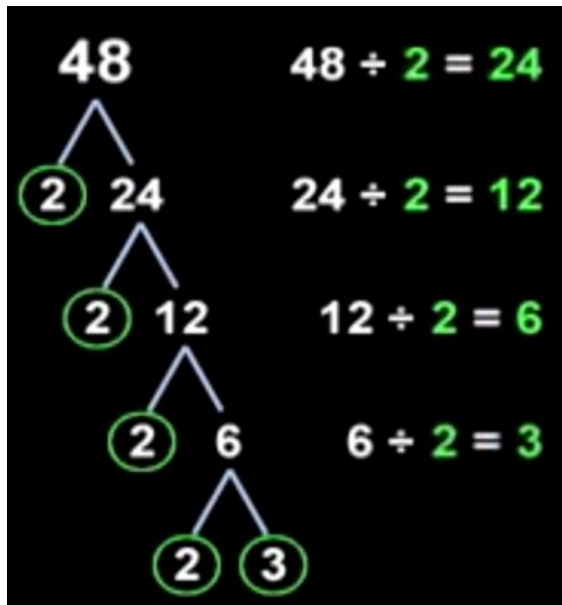
Factors are the number you multiply to get another

$$\begin{array}{ccc} & 2 \times 6 = 12 & \\ \nearrow & & \nwarrow \\ \text{Factors} & & \text{Factors} \end{array}$$

Prime Numbers are those that can be divided by 1 or

Ex: 2, 3, 5, 7, 11, 17, 19, 23.....

Prime Factorization is finding which prime factors which multiply together to form the original number.



Start working with smallest prime number.

In this case 2

Continue dividing till the last 2 numbers are prime numbers

In this case 2 and 3

You can write the answer as

$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

Exercise 1:

List the prime factorization for each number

NUMBER	FACTORIZATION
24	
16	
14	
54	
27	
41	
31	
44	
63	
58	
30	

Greatest Common Factor

Example:

Work out the greatest common factor of the following numbers:

12 AND 30

Factors of 12: 1, 2, 3, 4, 6, 12

Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30

The common factors are 1, 2, 3, 4, 6

Therefore 6 is the Greatest Common Factor

Exercise 1:

Find the GCF of the following numbers:

- 1) 12 and 24
- 2) 11 and 22
- 3) 18 and 21
- 4) 24 and 28
- 5) 64 and 54
- 6) 26 and 98
- 7) 32 and 72
- 8) 65 and 100
- 9) 144 and 156
- 10) 121 and 220
- 11) 156 and 299

Least Common Multiple

LEAST COMMON MULTIPLE

This is simply the **smallest positive number** that is a multiple of two or more numbers.

For example:

Find the L.C.M of 60 and 12

Multiples of 60:

60, 120, 180, 240, 300

Multiples of 12:

12, 24, 36, 48, **60**, 72

Therefore the least common multiple is **60**

Find the Least Common Multiple for each number pair

1) 56,8

2) 30,9

3) 40,20

4) 48,8

5) 6,5

6) 8,24

7) 90,30

8) 24,12

9) 18,12

10) 5, 35

11) **72,48**

12) **120,60,12**

13) 30,40,50

14) 5,24

15) 60,8

16) 12,36,56

17) 120,30

18) 3,5

19) 5,4,10

20) 8, 12, 9

NUMBER THEORY: COMPOSITE NUMBERS OR PRIME NUMBERS

31 is a **prime number** because it has exactly 2 factors: 1 and 31.

$$1 \times 31 = 31$$

32 is a **composite number** because it has more than 2 factors.

$$1 \times 32 = 32$$

$$2 \times 16 = 32$$

$$4 \times 8 = 32$$

Factors are the number you multiply to get another number

Complete the table

Number	List of factors	Prime or Composite?
--------	-----------------	---------------------

10		
5		
12		
18		
21		
36		
3		
79		
41		
31		
91		
77		
74		
51		

REVIEW- ADD AND SUBTRACT WHOLE NUMBER

(1)



“Can you help me find the amount of fishes I caught?”

(1) Find the total number of each type of fish

	In the bay	In the cavern
(a) Jets	631	278
(b) Amberjack	5447	3649

(2) How many more of each type of fish are in the bay than in the Carven?

(3) Copy and complete

(a) 4327 - 1764	(d) 7603 - 4402	(g) 7843 - 2485	(j) 6032 - 4309	(m) 10000 - 1392
--------------------	--------------------	--------------------	--------------------	---------------------

(b) 3260 - 1678	(e) 8005 - 2398	(h) 5623 - 3450	(k) 5890 - 4545	(n) 11020 - 3932
--------------------	--------------------	--------------------	--------------------	---------------------

(c) 5008 - 3402	(f) 3784 - 3294	(i) 4090 - 2598	(l) 8930 - 1119	(o) 15679 - 9099
--------------------	--------------------	--------------------	--------------------	---------------------

(4) Find the number of fishes at each location

(a) Bay: $1731 + 418 + 27$

(b) Lake: $3246 + 679 + 2011$

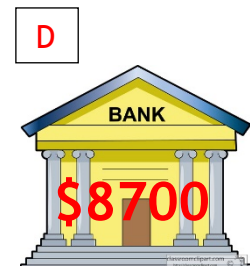
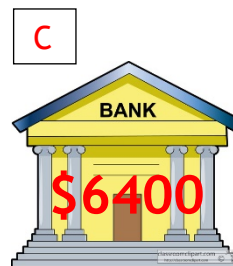
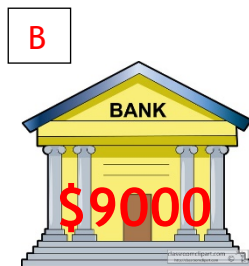
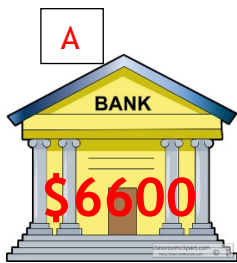
(c) Reef: $8 + 343 + 1178 + 90$

(5) Altogether there are 5000 fish. Half of them are blue. The rest are black or red. There are 100 more black fish than red fish. How many of each color fish are there?



(6) Mr. Jack has to put his money in the banks below. Each bank shows the number of money in it.

I need help in managing my accounts in the banks.



Mr. Jack tries this:

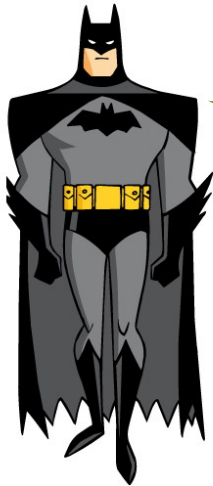
Bank A: \$6371

Bank C: \$6342

Bank D: \$8256

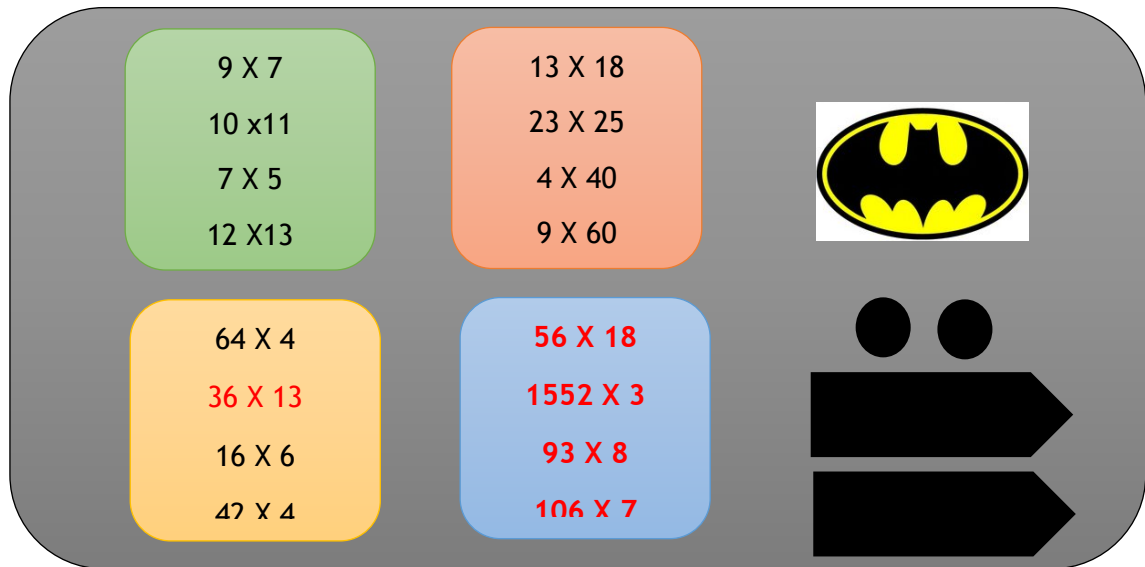
- (a) How much more money could Mr. Jack put in
Bank A Bank C Bank D
- (b) How much money could possibly by all of the banks combined together?
- (c) Mr. Jack has \$15000, how can he distribute this among his banks? List 1 possible way.

Multiplication



I have suddenly just forgot my passcode to enter my secret layer. I have 4 security buttons on my door to enter my layer. Could you help?

(1) (a) The total of the products in each button the codes to his secret layer



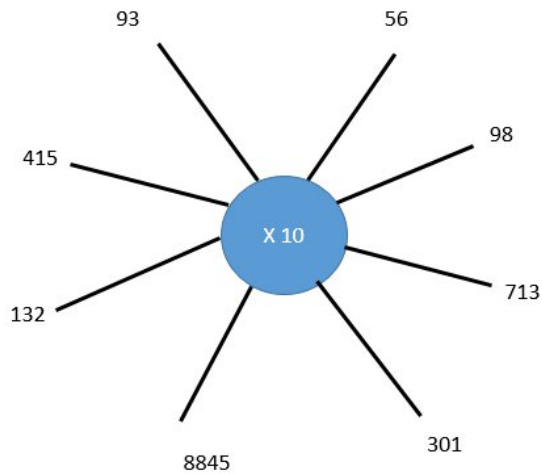
(1) (b) Batman crosses the security mat by stepping only on the rectangles which have an even product.

Which rectangles can he step on?

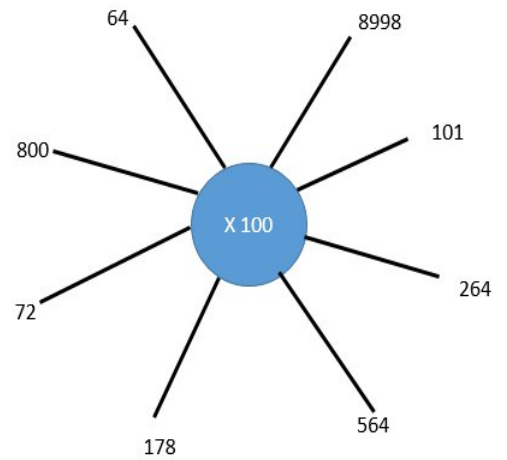
4×50	76×3	46×6	32×8
17×15	11×16	23×7	15×6
34×5	6814×1	46×4	26×7
90×2	45×5	56×2	18×5

(2) Multiply the following:

(a)



(b)



Multiplication of more than 2 numbers

For Example:

$$2 \times 3 \times 4$$

$$= 6 \times 4$$

the left

Multiply from right to left

Continue multiplying from the right to

24

(3)

(a) $2 \times 3 \times 6$

(b) $8 \times 5 \times 2$

(c) $1 \times 19 \times 10$

(d) $2 \times 3 \times 9$

(e) $10 \times 14 \times 3$

(f) $32 \times 1 \times 2$

(4)

(a) $2 \times 76 \times 5$

(b) $86 \times 12 \times 10$

(c) $2 \times 53 \times 2$

(d) $6 \times 21 \times 13$

(e) $12 \times 3 \times 12$

(f) $56 \times 2 \times 5$

(5) There are loads of supply on trucks, vans and planes.

Find the number of items unloaded on each transportation vehicle

(a) 4 trucks - 2541 crates on each

(b) 2 vans -- 898 boxes on each

(c) 5 planes 9045 packages on each

(d) 3 Lorries - 3901 packs on each

(6) Find how many boxes of medicine were unloaded on each convoy of trucks

	Number of trucks in convoy	Medicine boxes on each truck
(a)	6	3715
(b)	4	2098
(c)	5	6327
(d)	2	10457

(7) Solve the following

(a) 3120 (b) 4023 (c) 5634 (d) 5730 (e) 2098

$\underline{\quad} \times 4$ $\underline{\quad} \times 7$ $\underline{\quad} \times 5$ $\underline{\quad} \times 6$ $\underline{\quad} \times 8$

(g) 167 (h) 1670 (j) 2000 (h) 1320 (i) 4883 (j) 5601 (k) 7429

$\underline{\quad} \times 14$ $\underline{\quad} \times 10$ $\underline{\quad} \times 13$ $\underline{\quad} \times 12$ $\underline{\quad} \times 18$ $\underline{\quad} \times 23$ $\underline{\quad} \times$

26

Divisibility Rules

Is the rule to test if one number is divisible by another

Divisible By:	Rules:	Example:
2	If the last digit is even (0,2,4,6,8)	64 YES 65 NO
3	The sum of the digits of the number is divisible by 3	255 ($2 + 5 + 5 = 12$ and $12 / 3 = 4$) YES 316 ($3 + 1 + 6 = 10$, and $10 / 3 = 3 \frac{1}{3}$) No
4	The Last 2 digits are divisible by 4	1012 is ($12 / 4$) = 3 Yes 5019 is not
5	The last digit is 0 or 5	165 Yes 409 No
6	The number is divisible by both 2 and 3	114 (it is even, and $1+1+4=6$ and $6 \div 3 = 2$) Yes 308 (it is even, but $3+0+8=11$ and $11 \div 3 = 3 \frac{2}{3}$) No
7	If you double the last digit and subtract it from the rest of the number and the answer is: • 0, or • divisible by 7	343 (Double 3 is 6, $34 - 6 = 28$, and $343 \div 7 = 49$) Yes 905 (Double 5 is 10, $90 - 10 = 80$, and $80 \div 7 = 11 \frac{3}{7}$) No
8	Last three digits are divisible by 8	109816 ($816 \div 8 = 102$) Yes 216302 ($302 \div 8 = 37 \frac{3}{4}$) No
9	Sum of the digits is divisible by 9	1629 ($1+6+2+9=18$, and again, $1+8=9$) Yes

		2013 ($2+0+1+3=6$) No
10	The number ends in 0	530 Yes 531 No
11	If you sum every second digit and then subtract all other digits and the answer is: • 0, or divisible by 11	1364 ($((3+4) - (1+6) = 0)$) Yes 25176 ($((5+7) - (2+1+6) = 3)$) No

Division

- Help distribute the items of medicine. Find out how many sets are there and how many items are left over?
 - 17 crutches in sets of 2
 - 36 sticks in sets of 5
 - 48 slings in sets of 6
 - 108 bandages in sets of 12
- Solve the following and include the remainder if necessary
 - 30/2
 - 60/5
 - 29/3
 - 23/6
 - 39/4
 - 36/7
 - 1/3 of 24
 - 1/4 of 28
 - 1/2 of 20
 - 1/5 of 25
 - 1/6 of 36
 - 61 ÷ 6
 - 84 ÷ 5
 - 93 ÷ 7
 - 101 ÷ 4
 - 57 ÷ 6

175 r=2

Example:

Nick shares 527 packets of cotton wool

$$\begin{array}{r} \\ 5 \overline{) 527} \end{array}$$

Equally among 3 boxes

Each box has 175 packets. There are 2 packets left over.

3. Share equally. How many are in each box and how many are left over?

(a) 467 tubes in 2 boxes

(c) 801 spoons in 4 boxes

(b) 863 toothbrushes in 3 boxes

(d) 658 in 5 boxes

4. Solve the following

(a) $305/4$

(b) $786/8$

(c) $193/2$

(d) $369/7$

(e) $1023/5$

(f) $2498/13$

Example:

Nick puts gems into sets of 10. Look at these division

$$\begin{array}{r} 124 \text{ r}=6 \\ 10 \overline{) 1246} \end{array}$$

Rubies

$$\begin{array}{r} 417 \text{ r}=2 \\ 10 \overline{) 4172} \end{array}$$

Emeralds

5. Solve the following

(a) $2813 \div 10$

(b) $6500 \div 10$

(c) $506 \div 10$

(d) $6152 \div 10$

(e) $7491 \div 10$

(f) $1/10$ of 8084

(g) $6931 \div 10$

(h) $1/10$ of 2040

(i) $6684 \div 6$

(j) $7982 \div 3$

(k) $1465 \div 7$

(l) $4250 \div 6$

(m) $4712 \div 19$

(n) $19,716 \div 12$

(o) $1/7$ of 3451

(p) $1/6$ of 2946

(q) $1/6$ of 7152

(r) $1/7$ of 2674

6. Nick collects a rewards of \$ 1 for every 10 grams she finds. How much is her reward for finding all of these gems?

2278

Diamonds

4163

3429

Rubies

7. Nick finds a box containing 1326 beads for bracelets. How many bracelets can be made, with 7 beads?
8. A set of 6 silver trays is worth \$ 3846. What is the value of each tray?
9. Nick finds that 1 gold chain weighs same as 2 silver chains. 3 gold chains and 1 silver chain weigh 1162 grams. What is the weight of each kind of chain?
10. Driver 'X' crashed a car. The repairs cost \$ 1248. Nick has to pay one eighth of the bill. How much does Driver 'X' have to pay?

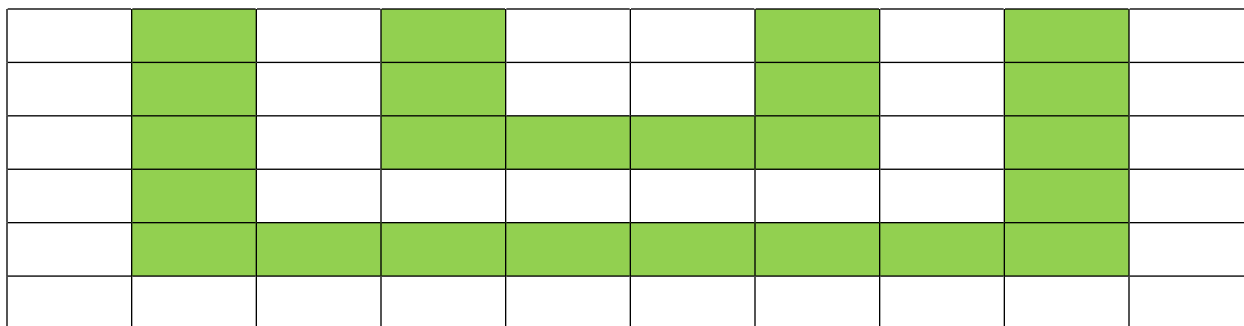
Percentages

Percentage Concept

“In this floor design 40 of 100 tiles are red”

40 out of 100 = $\frac{40}{100}$ = 40 per cent

40 per cent can be written as 40%

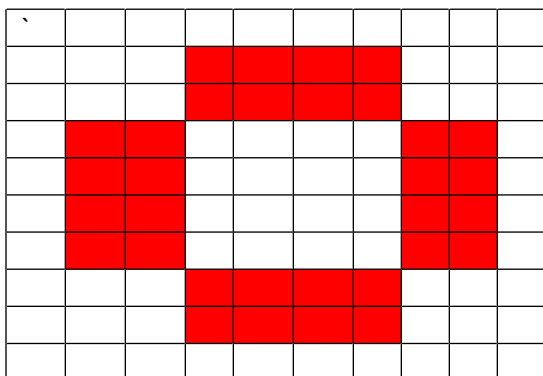


(1) For each of these floor designs, copy and complete

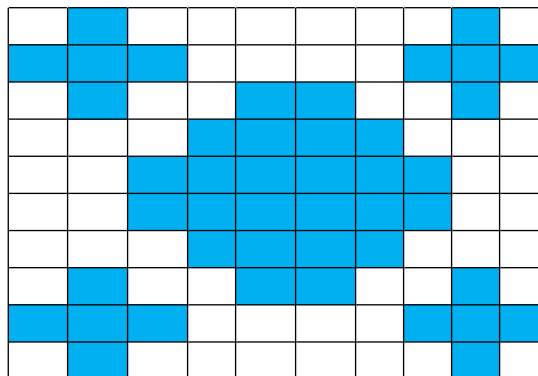
$\frac{\quad}{100}$ or % is colored

$\frac{\quad}{100}$ or % is **NOT** colored

(a)



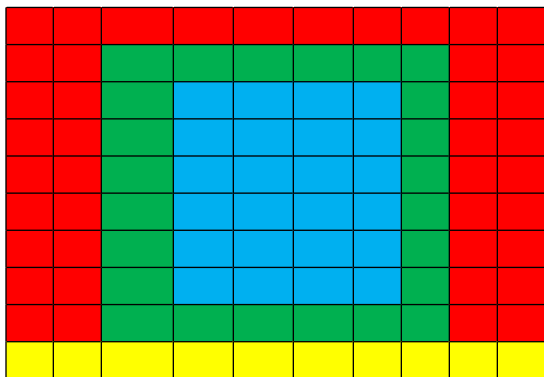
(b)



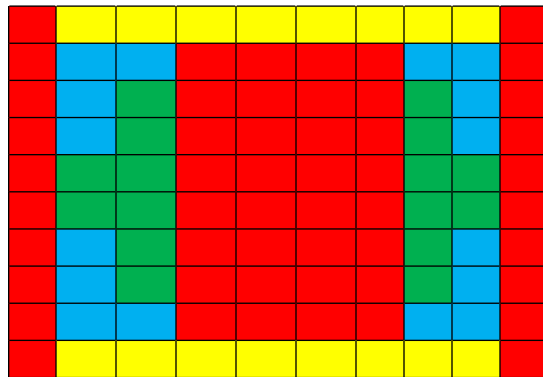
2. For each of table below, find the percentage colored

- Blue
- Red
- Green
- Yellow

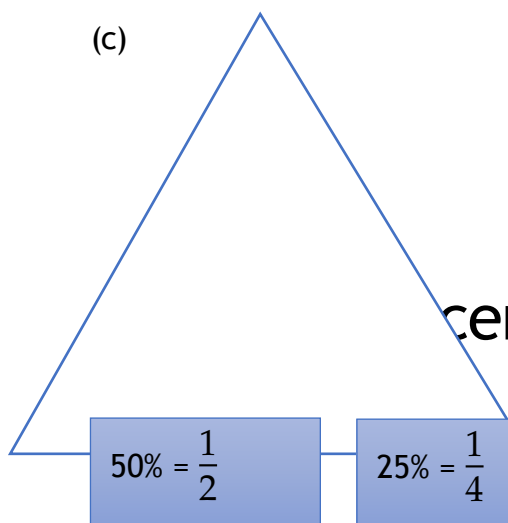
(a)



(b)



(c)



$$75\% = \frac{3}{4}$$

$$10\% = \frac{1}{10}$$

centage of quantity

There are 30 fruits in a bag. 30% of them are apples.

$$30\% = \frac{3}{10}$$

30 % of 30

$$= \frac{3}{10} \text{ of } 30$$

$$= 9$$

There are 9 apples in the bag



- (1) Find
(a) 25% of 16

- (b) 25% of 8
- (c) 25% of 100
- (d) 50% of 50
- (e) 50% of 18
- (f) 50% of 12
- (g) 75% of 60
- (h) 75% of 90
- (i) 75% of 25
- (j) 10% of 5
- (k) 10% of 70
- (l) 10% of 16

(2) Solve the following percentage quantities

- (a) 15% of 24
- (b) 65% of 45
- (c) 24% of 48
- (d) 100% of 1
- (e) 78% of 39
- (f) 55% of 60
- (g) 45% of 80
- (h) 60% of 40
- (i) 30% of 90
- (j) 10% of 180
- (k) 15% of 80

(3) On each plane, 25% of the passengers are children. How many passengers on each plane are

(a) Children (b) Adults?



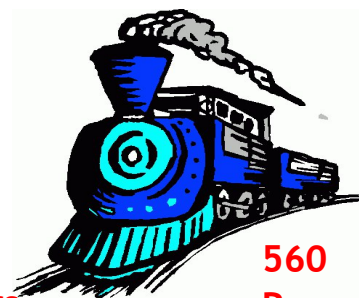
(4) Which
How



train has more passengers who are Children?
many more?

50%
Children

480
Passengers



560
Passengers

20%
Children

(5) The table displays the number of visitors this weekend.

Number of Visitors

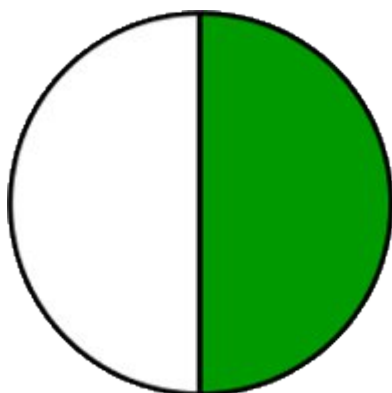
- 15% of these visitors were given a free chocolate
- 25% of these visitors were given a free pen
- 60% of these visitors were given a free poster

Fri	Sat	Sun
250	580	300

On each day of the weekend, how many were given free

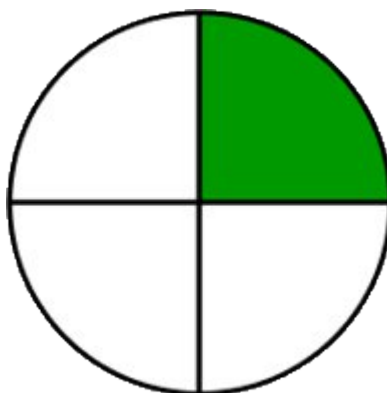
(a) Chocolate (b) Pen (c) Poster

Fractions



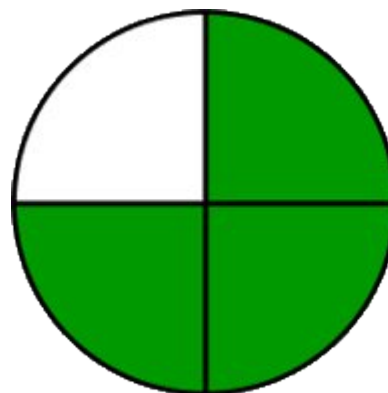
$\frac{1}{2}$

One-Half



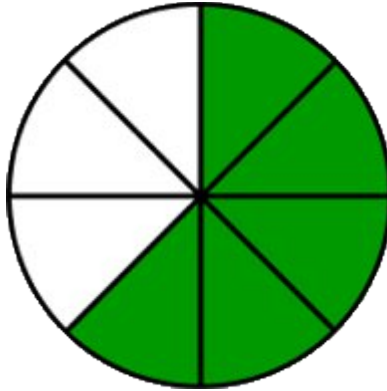
$\frac{1}{4}$

One-Quarter



$\frac{3}{4}$

One-Quarter



$\frac{5}{8}$

Five-Eighths

The top number tells how much section have been colored

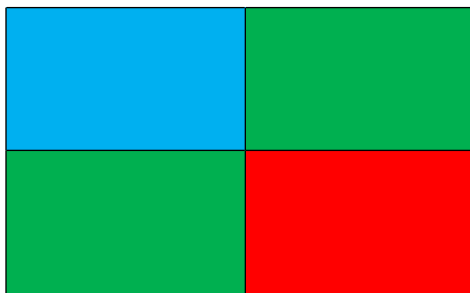
The bottom identifies the total number of sections

(1)

For each of the shapes below write the fraction colored:

(a) Blue (b) Green (c) Red

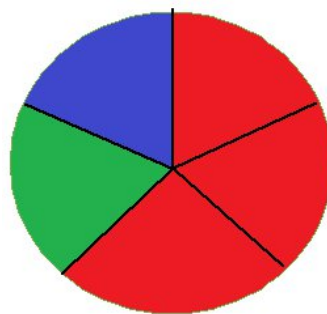
(i)



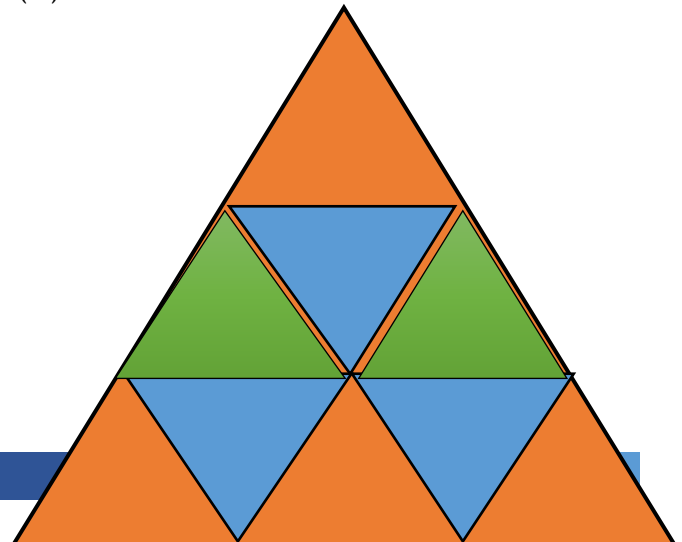
(iii)



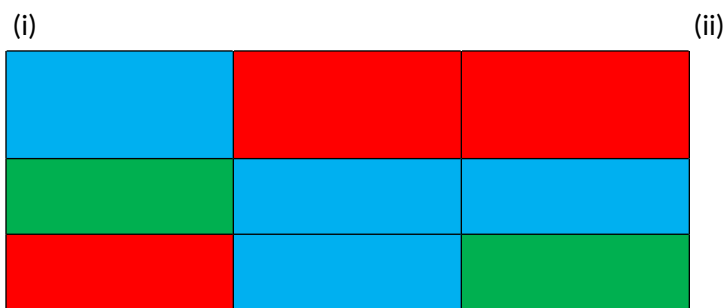
(ii)



(iv)



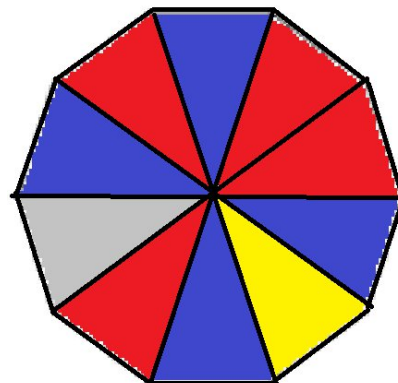
(2) For each shape, write the fractions
 (a) Colored green (b) not colored green



(iii)

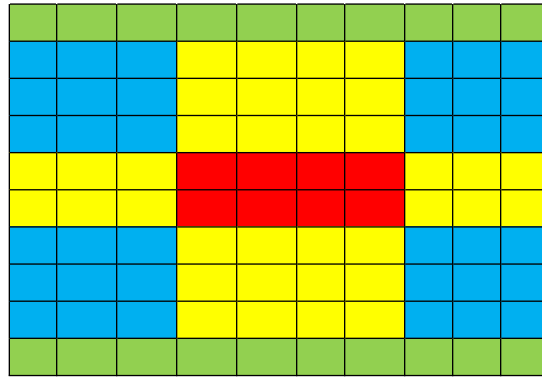


(iv)



(3)

In this window there are different colors. Find the following fractions of colors given:
 (a) Green (b) Blue (c) Red (d) Yellow



Equivalent Fractions

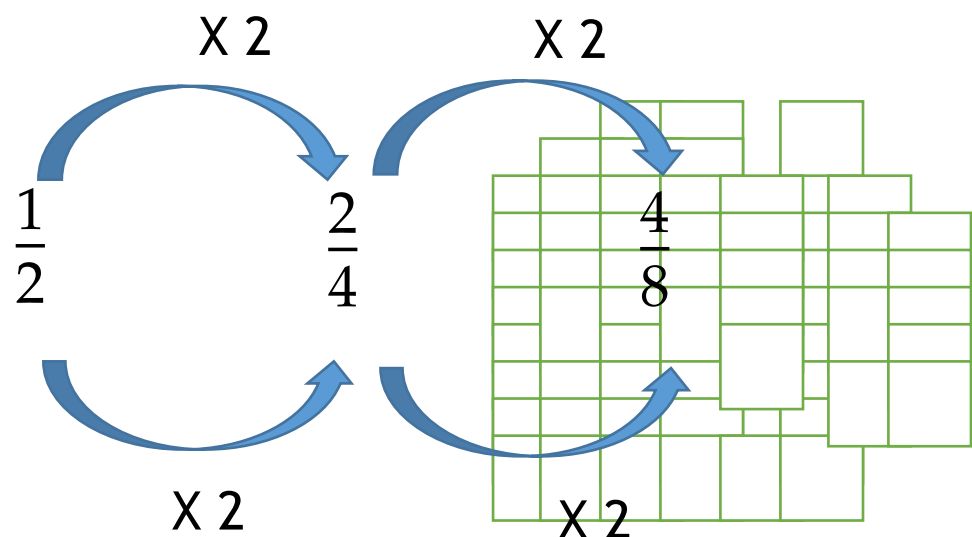
The Fractions below are all the same:

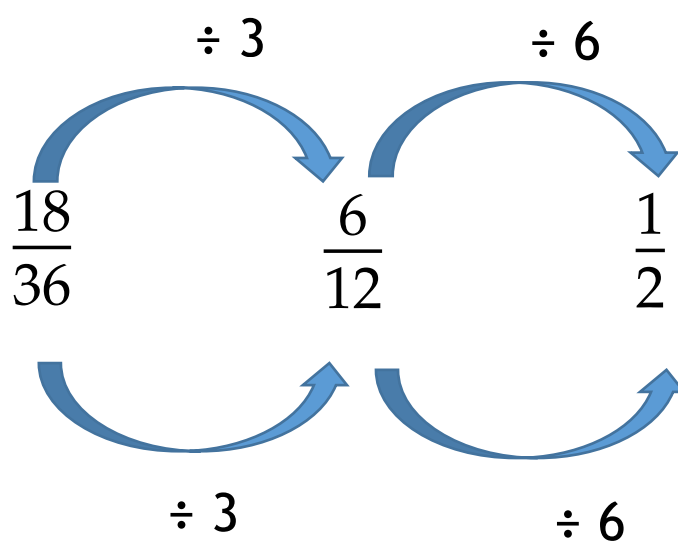
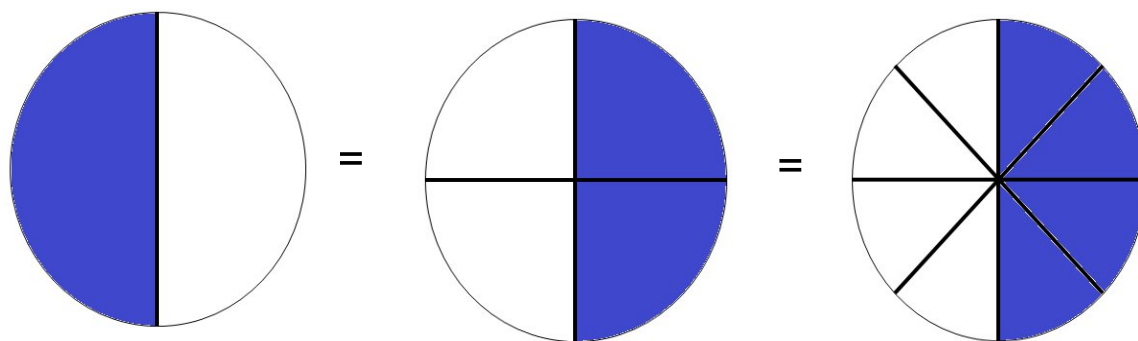
$$\frac{4}{8} = \frac{2}{4} = \frac{1}{2}$$

These fractions are the same.

This is because when you multiply or divide both the top and bottom by the same number, the fraction keeps its value.

Rule: Change the denominator (bottom) using multiplication or division. And the same will be applied to the numerator (top).

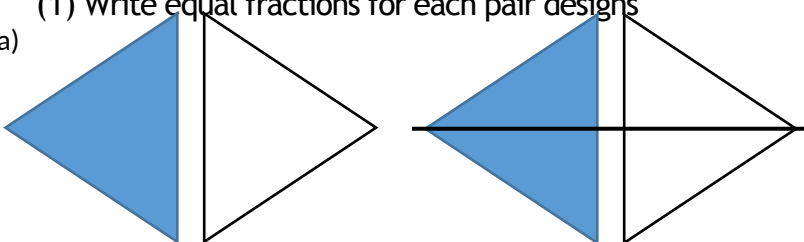




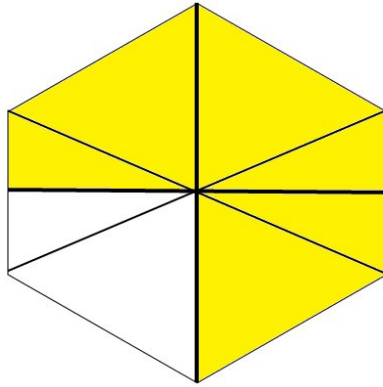
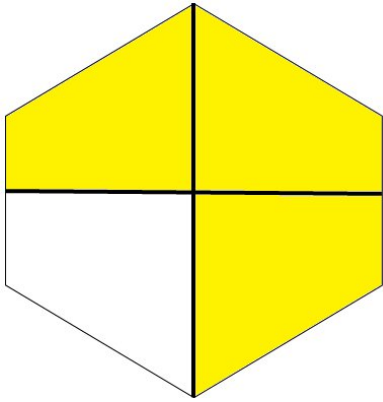
Choose a divisor, which creates results that are whole numbers. As you will divide further you reach an simplified fraction. In this case it is $\frac{1}{2}$.

(1) Write equal fractions for each pair designs

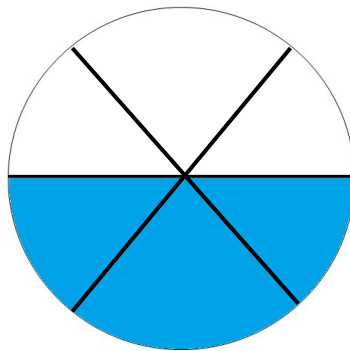
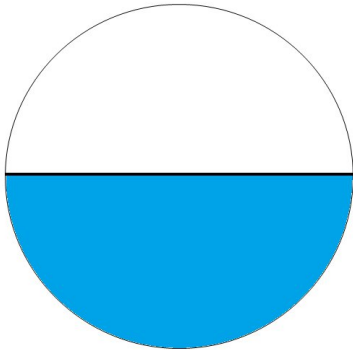
(a)



(b)

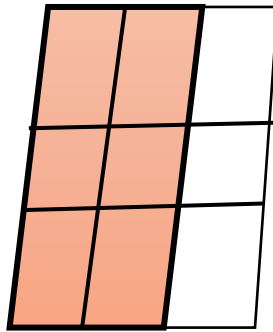
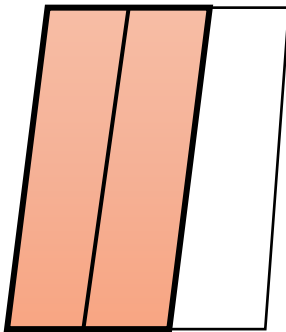


(c)

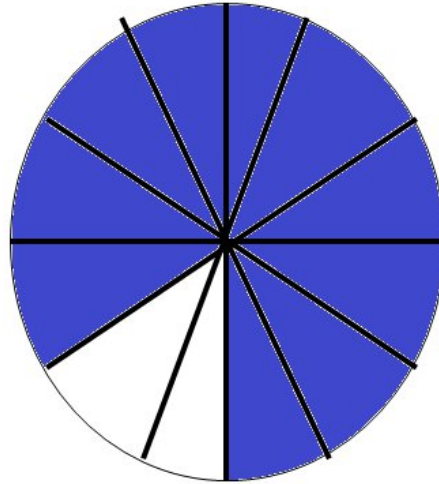
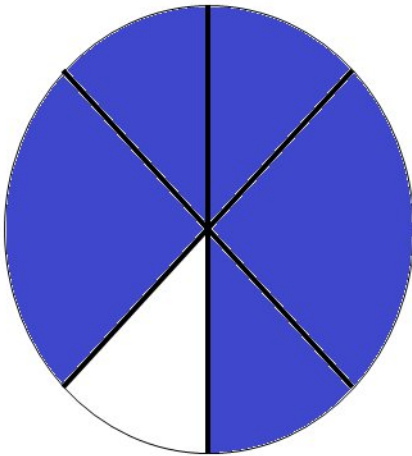


(d)

(e)



(f)



(2) Solve the following

$\frac{3}{4} = \frac{6}{\square}$	$\frac{2}{5} = \frac{4}{\square}$
$\frac{4}{7} = \frac{\square}{21}$	$\frac{4}{5} = \frac{\square}{45}$
$\frac{6}{10} = \frac{12}{\square}$	$\frac{1}{8} = \frac{5}{\square}$
$\frac{8}{9} = \frac{\square}{27}$	$\frac{3}{5} = \frac{\square}{35}$

(3) Solve the following

$\frac{8}{12} = \frac{4}{\square}$	$\frac{6}{7} = \frac{2}{\square}$
$\frac{16}{20} = \frac{\square}{5}$	$\frac{24}{36} = \frac{\square}{6}$
$\frac{21}{49} = \frac{\square}{7}$	$\frac{24}{32} = \frac{\square}{8}$
$\frac{15}{60} = \frac{3}{\square}$	$\frac{2}{26} = \frac{1}{\square}$

Addition and subtraction of Fractions

Step 1: Ensure that the denominators are the same.

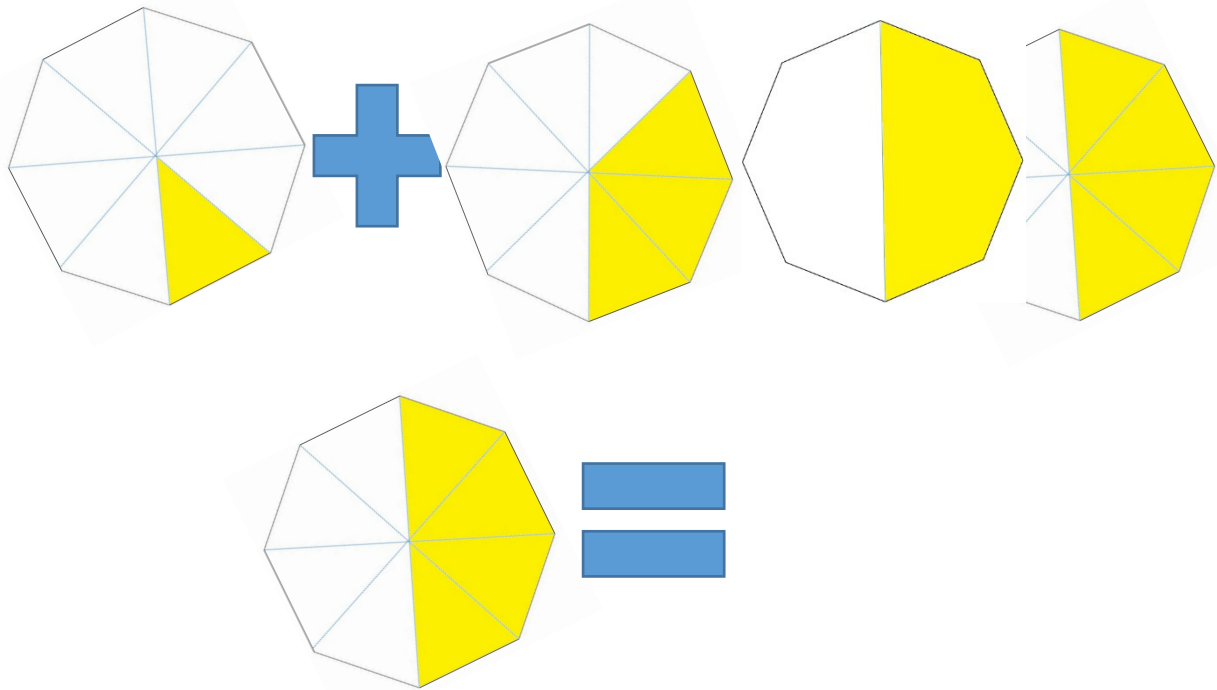
Step 2: Add the numerators, put the answer over the denominators.

Step 3: Simplify the fraction.

Step 1: $\frac{1}{8} + \frac{3}{8}$

Step 2: $\frac{1+3}{8} = \frac{4}{8}$

Step 3: $\frac{4}{8} = \frac{1}{2}$



Example 2:

Step 1: Ensure that the denominators are the same.

Step 2: Add the numerators, put the answer over the denominators.

Step 3: Simplify the fraction.

Solve the following sum

$$\frac{1}{3} + \frac{1}{6}$$

X 2

$$\frac{1}{3} + \frac{1}{6}$$

$$= \frac{2+1}{6} = \frac{3}{6} = \frac{1}{2}$$

Example 3:

Solve the following sum

$$\frac{3}{5} + \frac{5}{15}$$

$$\begin{array}{c} \text{X } 3 \\ \frac{3}{5} + \frac{5}{15} \\ \text{X } 3 \end{array} = \frac{9+5}{15} = \frac{14}{15}$$

Example 1:

Step 1: Ensure that the denominators are the same.

Step 2: Subtract the numerators, put the answer over the denominators.

Step 3: Simplify the fraction.

Step 1: $\frac{1}{2} - \frac{1}{6}$

Step 2: $\frac{3}{6} - \frac{1}{6} = \frac{2}{6}$



Example 2:

Step 1: $\frac{2}{5} \times 4 \quad \frac{1}{4} \times 5$

Step 2: $\frac{8+5}{20} = \frac{13}{20}$

Step 3:
 $\frac{13}{20}$ *Can not be further simplified*

(1) Solve the following:

$$\frac{2}{5} + \frac{3}{5} =$$

$$\frac{3}{6} - \frac{5}{9} =$$

$$\frac{3}{7} + \frac{3}{14} =$$

$$\frac{5}{12} - \frac{10}{12} =$$

$$\frac{11}{22} + \frac{10}{11} =$$

$$\frac{8}{24} - \frac{5}{12} =$$

$$\frac{28}{121} + \frac{72}{121} =$$

$$\frac{3}{7} - \frac{14}{42} =$$

$$\frac{7}{15} + \frac{4}{30} =$$

$$\frac{21}{101} - \frac{17}{101} =$$

$$\frac{10}{31} + \frac{15}{31} =$$

$$\frac{95}{161} - \frac{35}{161} =$$

(2) Solve the following word problems

(a) You give $\frac{1}{3}$ of the flour to Susan and $\frac{1}{6}$ of the wheat to Patrick. How much of the pan of brownies did you give away?

- (b) Tim goes for a long a cycle ride. He cycles $\frac{3}{4}$ km and then rest. Then he cycled $\frac{3}{8}$ of a km. How far did he cycle altogether?



- (c) Nick walks $\frac{7}{8}$ of a km to metro. Sam cycles $\frac{1}{2}$ of a km to metro. How much farther does Nick walk than Sam?
- (d) Josh made two types of cakes. He used $\frac{2}{3}$ cup of sugar for one recipe and $\frac{1}{4}$ cup of sugar for the other. How much sugar did he use in all?

Multiplication of fractions

Steps to multiply fractions

Step 1: Multiply the numerators

Step 2: Multiply the denominators.

Step 3: Simplify the fraction if needed.

Example 1:

Solve $\frac{3}{4} \times \frac{2}{3}$

Step 1: $\frac{3}{4} \times \frac{2}{3} = \frac{3 \times 2}{4 \times 3} = \frac{6}{12}$

Step 2: $\frac{6}{12} = \frac{1}{2}$

Example 2:

Step 1: $\frac{11}{5} \times \frac{6}{10} = \frac{11 \times 6}{5 \times 10} = \frac{66}{50}$

Step 2:

$\frac{66}{50}$ *This can not be further simplified*

Example 3:

Solve: $\frac{3}{10} \times \frac{7}{9} \times \frac{3}{6} = \frac{3 \times 7 \times 3}{10 \times 9 \times 6} = \frac{63}{540}$



Solve from left to right

$\frac{63}{540}$ *This can be simplified*

$\frac{63}{540} \div \frac{9}{9} = 7/60$

(1) Find the value of each expression

1. $\frac{5}{6} \times \frac{1}{4}$

5. $\frac{8}{9} \times \frac{3}{2}$

9. $\frac{4}{9} \times \frac{7}{12}$

2. $\frac{4}{9} \times \frac{2}{3}$

6. $\frac{5}{11} \times \frac{1}{3}$

10. $\frac{7}{8} \times \frac{4}{6}$

3. $\frac{3}{5} \times \frac{3}{4}$

7. $\frac{11}{16} \times \frac{5}{6}$

11. $\frac{20}{24} \times \frac{5}{6}$

4. $\frac{5}{6} \times \frac{9}{11}$

8. $\frac{6}{13} \times \frac{22}{36}$

12. $\frac{19}{40} \times \frac{9}{19}$

(2) Solve the following expressions

$$\frac{10}{15} \times \frac{3}{11} \times \frac{3}{9} =$$

$$\frac{8}{12} \times \frac{8}{18} \times \frac{5}{7} =$$

$$\frac{10}{17} \times \frac{12}{25} \times \frac{10}{13} =$$

$$\frac{8}{13} \times \frac{21}{27} \times \frac{10}{12} =$$

$$\frac{13}{20} \times \frac{16}{18} \times \frac{6}{10} =$$

$$\frac{15}{25} \times \frac{30}{40} \times \frac{10}{20} =$$

$$\frac{11}{15} \times \frac{10}{14} \times \frac{22}{27} =$$

$$\frac{8}{10} \times \frac{10}{15} \times \frac{3}{2} =$$

$$\frac{37}{40} \times \frac{10}{12} \times \frac{7}{13} =$$

$$\frac{16}{28} \times \frac{21}{24} \times \frac{4}{7} =$$

(3) Solve the following word problems and simplify all of your answers.

- (a) On Saturday, Nick ate pizza for dinner and had $\frac{1}{2}$ of the pizza left over. On Sunday, he ate $\frac{1}{3}$ of what was left. How much pizza did Nick eat on Monday?
- (b) In Tom's class, $\frac{2}{3}$ of the pupils have a sister. Of the pupils who have a sister, $\frac{1}{2}$ also have a brother. What fraction of the students in Tim's class have both a sister and a brother?
- (c) Ahmad runs an apple juice stand. On Sunday he used $\frac{6}{8}$ of a bag of apples. On Monday he used $\frac{1}{10}$ as many apples as on Sunday. How many bags of apples did Justin use on Monday?
- (d) Sam's cupcakes recipe calls for $\frac{1}{2}$ of a cup of sugar. How much sugar would be used to make $\frac{1}{4}$ of a batch of cupcakes?
- (e) The giraffe at the Al-Aim Zoo are fed $\frac{1}{2}$ a barrel of corn each day. The elephant are fed $\frac{7}{10}$ as much corn as the giraffe. How many barrels of corn are the elephant fed each day?
- (f) At a Arcade, $\frac{8}{12}$ of the games are shooting games. Among the shooting games, $\frac{1}{2}$ are first person games. What fraction of the games at the Arcade are first person games?
- (g) Of the students in the Harry's band, $\frac{1}{2}$ play drum. Of the students who play a drum, $\frac{1}{5}$ play the piano. What fraction of the students in the band play the paino?
- (h) Michael had $\frac{1}{3}$ of a pie. He gave $\frac{3}{4}$ of what she had to his friend Jason. What fraction of the whole pie did Jason get?

Division of fractions

Step 1: Turn the second fraction (divisor) upside down, this called reciprocal.

Step: Multiply the first fraction the r reciprocal.

Step 3: Simplify the fraction

Example:

Solve: $\frac{1}{2} \div \frac{1}{6}$

$$\frac{1}{6} \text{ becomes } \frac{6}{1}$$

$$\frac{1}{2} \times \frac{6}{1} = \frac{1 \times 6}{2 \times 1} = \frac{6}{2}$$

$$\frac{6}{2} = 3$$

Example:

Solve: $\frac{4}{9} \div \frac{7}{12}$

$$\frac{7}{12} \text{ becomes } \frac{12}{7}$$

$$\frac{4}{9} \times \frac{12}{7} = \frac{4 \times 12}{9 \times 7} = \frac{48}{63}$$

$$\frac{16}{21} = 3$$

(1) Solve the following questions

- | | | |
|---------------------------------------|--|--|
| 1) $\frac{1}{2} \div \frac{11}{20} =$ | 6) $\frac{17}{18} \div \frac{4}{8} =$ | 11) $\frac{4}{8} \div \frac{3}{7} =$ |
| 2) $\frac{6}{8} \div \frac{6}{7} =$ | 7) $\frac{6}{9} \div \frac{2}{4} =$ | 12) $\frac{1}{2} \div \frac{6}{7} =$ |
| 3) $\frac{1}{16} \div \frac{4}{14} =$ | 8) $\frac{3}{14} \div \frac{1}{10} =$ | 13) $\frac{3}{5} \div \frac{1}{3} =$ |
| 4) $\frac{1}{3} \div \frac{9}{20} =$ | 9) $\frac{2}{6} \div \frac{12}{14} =$ | 14) $\frac{5}{10} \div \frac{1}{2} =$ |
| 5) $\frac{10}{16} \div \frac{3}{9} =$ | 10) $\frac{9}{14} \div \frac{5}{10} =$ | 15) $\frac{4}{6} \div \frac{12}{14} =$ |

(2) Solve the following equations:

$$1) \quad \frac{6}{10} \div 10 =$$

$$2) \quad \frac{1}{9} \div 13 =$$

$$3) \quad \frac{2}{3} \div 9 =$$

$$4) \quad 4 \div \frac{2}{5} =$$

$$5) \quad \frac{6}{9} \div 8 =$$

$$6) \quad \frac{5}{8} \div 18 =$$

$$7) \quad \frac{5}{6} \div 15 =$$

$$8) \quad \frac{1}{7} \div 10 =$$

$$9) \quad \frac{2}{5} \div 6 =$$

$$10) \quad 9 \div \frac{1}{8} =$$

$$11) \quad \frac{1}{3} \div 4 =$$

$$12) \quad \frac{2}{3} \div 10 =$$

$$13) \quad \frac{1}{2} \div 2 =$$

$$14) \quad \frac{3}{9} \div 14 =$$

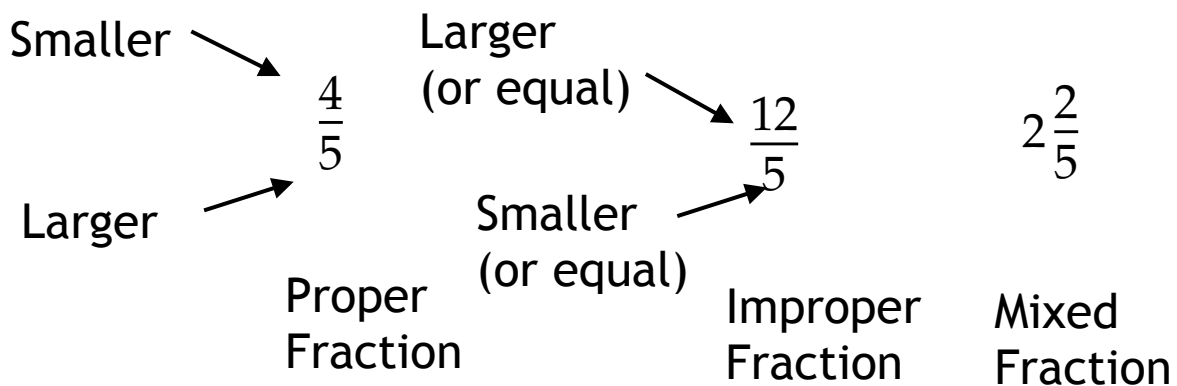
$$15) \quad \frac{5}{8} \div 14 =$$

(3) Division word problems:

(a) Jason has $\frac{2}{4}$ of a pizza and he want to share it equally between 2 people.
How much of the pizza does each person get?

- (b) Nicole is baking a cake. She uses $\frac{1}{4}$ cup of oil for each cake. How many cakes can she make if she has a bottle of oil that has 6 cups in it?
- (c) How many $\frac{1}{2}$ cup servings are in a package of salt that contains $5\frac{1}{4}$ cups altogether?
- (d) Mrs. Fabian is making pillow cases. Each pillow case uses $\frac{3}{4}$ of a yard of fabric. How many pillow cases can she make out of $12\frac{1}{2}$ yards of fabric?
- (e) A closet is $3\frac{1}{2}$ feet long and a cube of ice is stored there. Each book on the cube is $\frac{5}{8}$ inches wide. How many cubes will fit on the shelf?

Improper and proper Fraction



Conversion between improper to mixed numbers

$$1\frac{4}{5} = ?$$

$$\begin{array}{r} +4 \\ 1\frac{4}{5} \\ \times 5 \\ \hline \end{array}$$

Therefore the answer will be $\frac{9}{5}$

To convert mixed fraction to an improper fraction

You must multiply the denominator with the whole number.

And then add it with the numerator.

To convert an improper fractions with a mixed fraction

You must divide the numerator by the denominator. Write down the whole number answer.

Then write down any remainder above the denominator.

Convert $\frac{7}{4}$ into a mixed number

$$\frac{7}{4} = ?$$

$\frac{7}{4}$ 7 divided 4 has a remainder of 3
Therefore the answer is $1\frac{3}{4}$

(1) Convert the following mix fractions into improper fractions:

1) $5\frac{1}{4} =$

2) $5\frac{9}{10} =$

3) $2\frac{2}{9} =$

4) $4\frac{2}{5} =$

5) $9\frac{1}{2} =$

6) $2\frac{3}{4} =$

7) $6\frac{6}{7} =$

8) $6\frac{3}{4} =$

9) $3\frac{5}{7} =$

10) $9\frac{1}{6} =$

11) $2\frac{10}{11} =$

12) $6\frac{1}{3} =$

13) $9\frac{4}{5} =$

14) $8\frac{1}{2} =$

15) $5\frac{1}{6} =$

(2) Convert the following improper fractions into mix fractions

1) $\frac{39}{12} =$

2) $\frac{74}{10} =$

3) $\frac{7}{2} =$

4) $\frac{33}{7} =$

5) $\frac{19}{3} =$

6) $\frac{37}{10} =$

7) $\frac{23}{4} =$

8) $\frac{19}{3} =$

9) $\frac{49}{9} =$

10) $\frac{41}{6} =$

11) $\frac{59}{11} =$

12) $\frac{28}{6} =$

13) $\frac{31}{12} =$

14) $\frac{41}{8} =$

15) $\frac{23}{5} =$

Conversion: Between Decimals and Fractions

Step 1: Write the decimal by 1

Step 2: Multiply both numerator and denominator by 10 for every decimal point.

Step 3: Simplify fraction

Example 1:

Write 0.25 as a fraction

Step 1: $\frac{0.25}{1}$

Step 2: $\frac{0.25}{1} \xrightarrow{\times 100} \frac{25}{100} = \frac{1}{4}$ (2 decimal points therefore multiply by 100)

Step 3: $\frac{25}{100} = \frac{1}{4}$ (Simplify)

Example 2:

Write 5.7 as a fraction

Step 1: $\frac{5.7}{1}$

Step 2: $\frac{5.7}{1} = 5\frac{7}{10}$ (Separate the whole number and convert the fraction therefore 5.7 will be $5\frac{7}{10}$)

Step 3: $5\frac{7}{10}$ (Cannot be simplified)

(1) Convert the following decimal into fractions

- (a) 0.9
- (b) 1.3
- (c) 0.4
- (d) 0.12
- (e) 0.75
- (f) 0.08
- (g) 6.4
- (h) 0.09
- (i) 5.9
- (j) 1.25
- (k) 6.5
- (l) 3.7
- (m) 4.3
- (n) 2.2
- (o) 2.15
- (p) 1.85
- (q) 5.55
- (r) 5.01
- (s) 0.777

Convert Fractions into Decimals

Step 1: Find a number you can multiply by denominator of the fraction to make it 10, or 100, or 1000 etc.

Step 2: Multiply both the denominator and numerator by that number.

Step 3: Then write the numerator number, putting the decimal point in the correct spot.

Express $\frac{1}{2}$ as a decimal

$$\frac{1}{2} = \frac{5}{10}$$

x5

Write 5 with decimal points 1spce from the right (because 10 has 1 zero)

- | | |
|----------------------|---------------|
| 1) $\frac{3}{5}$ = | 11) 0.625 = |
| 2) $\frac{3}{4}$ = | 12) 0.375 = |
| 3) $\frac{2}{10}$ = | 13) 0.5 = |
| 4) $\frac{5}{6}$ = | 14) 0.5 = |
| 5) $\frac{1}{12}$ = | 15) 0.3333 = |
| 6) $\frac{1}{12}$ = | 16) 0.5833 = |
| 7) $\frac{4}{6}$ = | 17) 0.8 = |
| 8) $\frac{2}{3}$ = | 18) 0.3 = |
| 9) $\frac{2}{3}$ = | 19) 0.8 = |
| 10) $\frac{3}{4}$ = | 20) 0.25 = |

Decimals to Percentages and Vice Versa

To convert a decimal to a percentage you must multiply it by 100

To convert a percentage to a decimal you must move the decimal point
2 places to the left to remove the % sign.

Example 1:

Convert 1.2 to a percent

$$1.2 \times 100 = 120\%$$

Example 2:

Convert 58% to a percent

Fractions to Percentages and Vice Versa

To convert percent to fraction

Step 1: Write the percent divided by 100

Step 2: If the percent is not a whole number multiply it by 10, 100 or 1000 to remove the decimal point.

Step 3: Simplify the fraction

Example 1:

Convert 35 % to a decimal

$$\frac{35}{100} = \frac{7}{20} \text{ (divide both numerator and denominator by 5 to simplify)}$$

Example 2:

Convert 75.5% to a decimal

$$\begin{array}{l} \frac{75.5}{100} \xrightarrow{\times 10} \frac{755}{1000} \\ \frac{755}{1000} \xrightarrow{\times 10} \frac{7550}{10000} \end{array}$$

To convert Fraction to a percent

Step 1: Divide the numerator by the denominator

Step 2: Multiply the result by 100

Example 1:

Convert $\frac{1}{4}$ as a percentage

$$\frac{1}{4} \xrightarrow{\times 25} \frac{25}{100} = 25\%$$

Review

Example 2:

Convert $\frac{5}{16}$ as a percentage

$$\frac{5}{16} \xrightarrow{\times 6.25} \frac{31.25}{100} = 31.25\%$$

Convert Decimal to Percent

$0.62 =$

$0.92 =$

$1.3 =$

$0.42 =$

$0.461 =$

$0.317 =$

Convert Percent to Decimal

$54.7 \% =$

$108 \% =$

$84.7 \% =$

$153 \% =$

$63.4 \% =$

$36 \% =$

Convert Decimal to Fraction

$0.17 =$

$1.75 =$

$1.16 =$

$0.35 =$

$0.591 =$

$1.7 =$

Convert Fraction to Decimal

$\frac{48}{25} =$

$\frac{37}{40} =$

$\frac{8}{50} =$

$\frac{19}{20} =$

$\frac{44}{50} =$

$\frac{5}{10} =$

Convert Fraction to Percent

$\frac{3}{16} =$

$\frac{81}{50} =$

$\frac{7}{8} =$

$\frac{1}{8} =$

$\frac{34}{20} =$

$\frac{51}{50} =$

Convert Percent to Fraction

$58 \% =$

$171 \% =$

$17.9 \% =$

$170 \% =$

$130 \% =$

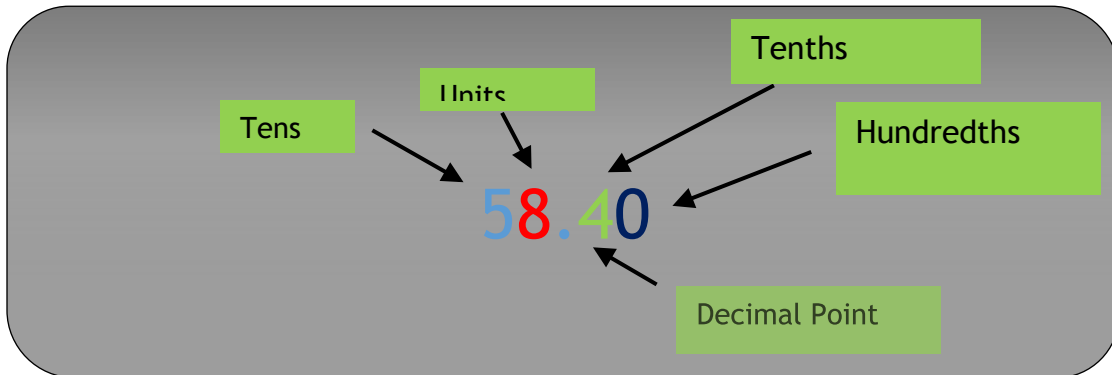
$37 \% =$

DECIMALS

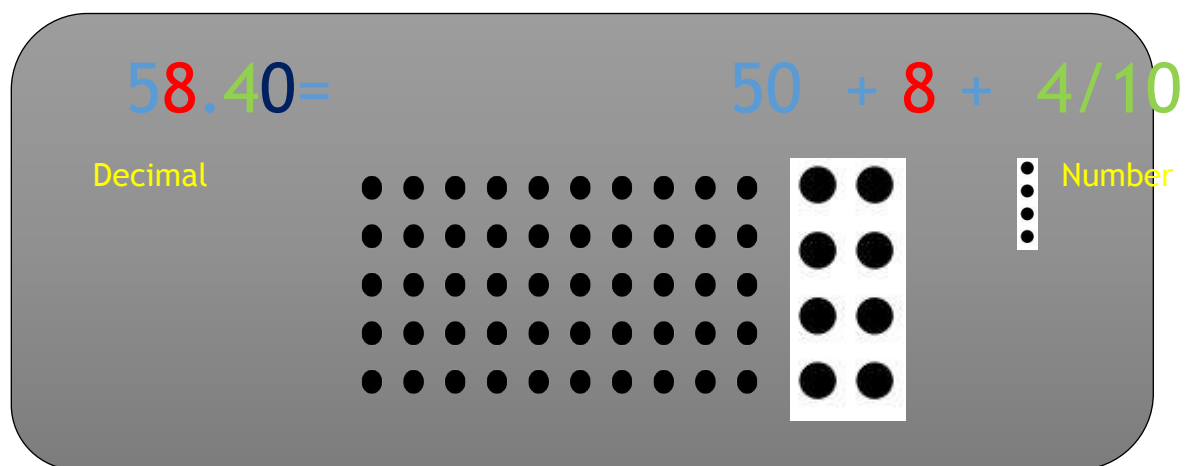
A fraction whose denominator is a power of ten and whose numerator is expressed by figures placed to the right of a decimal point.

For Example:

“Fifty-eight and four tenths” can be written as a decimal number



We can break this down



The key to this is known as PLACE VALUE

Place Value can be described as the position or place of a number

Let's take the number 836

836.47

The "6" in this number is known as the unit

The "3" in this number is known as the tens

The "8" in this number is known as the hundred

The "4" in this number is known as tenths

The "7" in this number is known as hundredth



As the numbers move to the left they become 10 times bigger

For example thousands is 10 times bigger than hundred

Opposites

As the numbers move to the right they become 10 times smaller

For example thousands is 10 times bigger than hundred

What happens after passing the "." (Decimal point)?
Simple, follow the same pattern meaning $\frac{1}{10}$ smaller



We call this eight hundred thirty-six and forty-seven hundredths

Write the following in digits:

- 1) Eight units and three tenths:
- 2) Seven units and eight tenths:
- 3) Four units and five thousandths:

- 4) Seven units and four hundredths:
- 5) Nine tens, five units, seven tenths and two hundredths:
- 6) Eight tens, eight units and three hundredths:
- 7) Five tenths, two hundredths and five thousandths:
- 8) Six units, three hundredths and three thousandths:
- 9) even units, six hundredths and five thousandths:

Write the following in word form:

- 1) 36.6
- 2) 92.8
- 3) 24.5
- 4) 59.6
- 5) 46.6
- 6) 42.1
- 7) 58.1
- 8) 41.2
- 9) 21.2
- 10) 45.2
- 11) 54.7
- 12) 56.9

Write the following in standard form:

- 1) $20 + 6 + 0.9 + 0.06$
- 2) $30 + 1 + 0.7 + 0.07$
- 3) $40 + 9 + 0.2 + 0.06$

4) $30 + 7 + 0.6 + 0.07$

5) $30 + 5 + 0.8 + 0.01$

6) $50 + 7 + 0.4 + 0.04$

7) $50 + 2 + 0.4 + 0.06$

8) $70 + 8 + 0.3 + 0.07$

9) $20 + 1 + 0.3 + 0.02$

10) $10 + 8 + 0.4 + 0.02$

11) $80 + 1 + 0.4 + 0.01$

12) $70 + 7 + 0.1 + 0.01$

13) $40 + 1 + 0.1 + 0.04$

14) $40 + 2 + 0.9 + 0.09$

15) $90 + 3 + 0.5 + 0.07$

Match the Number with the Correct Name

1) 4.72

A

Seven

and Seven Tenths

2) 6.26
Twelve Hundredths

3) 2.71
Six Hundredths

4) 7.12
Four Hundredths

5) 9.85
Fourteen Hundredths

6) 9.14
Five Hundredths

7) 4.72
One Hundredths

8) 9.24
Eight Hundredths

9) 7.70
Two Hundredths

10) 5.68
Two Hundredth

B Seven and

C Six and Twenty

D Nine and Twenty

E Nine and

F Nine and Eighty

G Two and Seventy

H Five and Sixty

I Four and Seventy

J Four and Seventy

Addition and Subtraction of Decimals

Addition:

Explanation:

To successfully add decimals numbers we have to ensure that the tens are added to tens, units to the units, and so forth. The numbers have to be written such that the 2 decimals points are aligned vertically. Add the zeros so that the numbers have the same length.

Work Examples:

$$19.12 + 7.45 =$$

$$\begin{array}{r} 19.12 \\ + 07.45 \\ \hline 26.57 \end{array}$$

$$3.75 + 0.025 + 4 =$$

$$\begin{array}{r} 3.750 \\ 0.025 \\ + 4.000 \\ \hline 7.775 \end{array}$$

$$1.624 + 2.8 =$$

$$\begin{array}{r} 1.624 \\ + 2.800 \\ \hline 4.424 \end{array}$$

Note: The decimal point in the answer is vertically lined up with the decimal point in the number.

Subtraction:

Explanation:

To successfully subtract decimals numbers we have to follow the same steps but subtract the numbers.

Work Example:

$$8.005 - 2.6 =$$

$$\begin{array}{r} 8.005 \\ - 2.600 \\ \hline 5.405 \end{array}$$

$$8.57 - 7.09 =$$

$$\begin{array}{r} 8.57 \\ - 7.09 \\ \hline 1.48 \end{array}$$

$$9.35 - 4.86 =$$

$$\begin{array}{r} 9.35 \\ - 4.86 \\ \hline 4.49 \end{array}$$

Evaluate the following:

a) $23.23 + 15.81 =$

b) $81.92 + 9.26 =$

c) $82.36 + 82.36 =$

d) $1.63 + 3.44 =$

e) $6.5 + 1.23 =$

f) $88 + 9.09 =$

g) $57 + 46.45 =$

a) $70 + 54.23 =$

b) $0.89 + 0.73 =$

c) $5.06 + 1.78 =$

d) $4.54 + 1.38 =$

e) $8.37 + 5.85 =$

f) $7.36 + 37.98 =$

g) $98.11 + 0.020 =$

Getting a bit tricky

a) $0.66 + 456.90 =$

b) $1.48 + 793.43 =$

c) $9 + 48.32 + 1.1 =$

d) $98.01 + 0.89 + 0.64 =$

e) $86.2 + 36.95 =$

f) $42.424 + 60.8 =$

g) $3.1935 + 7 + 0.7 =$

h) $46.39 + 829 + 9.6 =$

i) $762 + 89.0 + 9.045 =$

j) $6.032 + 5.9019 =$

k) $0.2345 + 1.06 + 101 =$

l) $1 + 0.1 + 0.001 + 0.00001 + 0.0001 =$

m) $1000 + 0.1 + 0.001 =$

n) $1254 + 8.900 + 0.00056 + 1 =$

Evaluate the following:

1: 0.45 - 8.20	2: 0.32 - 0.14	3: 0.28 - 0.96	4: 0.76 - 0.29	5: 0.18 - 0.59
6: 2.80 - 0.76	7: 0.62 - 9.20	8: 0.83 - 3.00	9: 0.30 - 0.90	10: 0.79 - 8.30

11: 0.11 - 0.52	12: 5.70 - 0.13	13: 6.10 - 0.70	14: 0.79 - 0.61	15: 0.71 - 7.70
16: 0.20 - 0.22	17: 0.47 - 0.69	18: 0.45 - 0.58	19: 0.52 - 7.20	20: 0.12 - 5.30

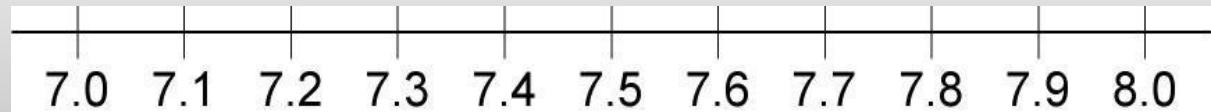
21: 4.60 - 0.52	22: 0.24 - 1.20	23: 0.93 - 0.15	24: 0.95 - 7.90	25: 6.20 - 0.46
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Number lines of Decimals

Number lines are often seen as:

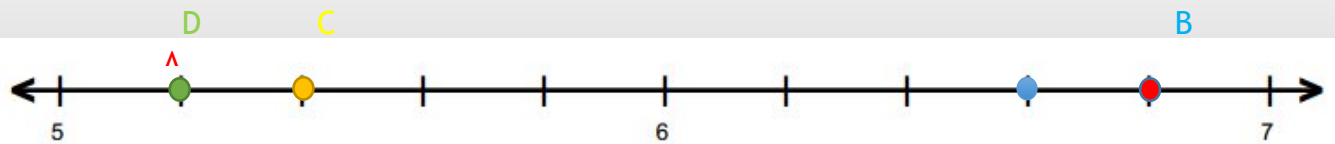


But if we zoom in we can get to see the decimals:



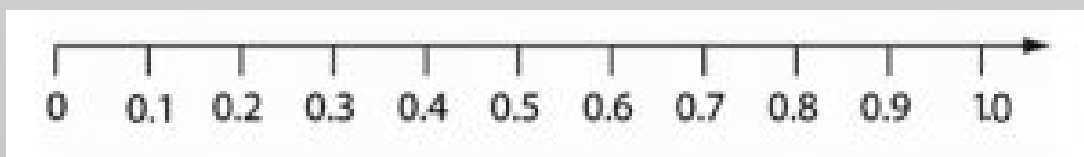
Let's look at this number line for an example and take the following numbers

A=6.6 B=6.8 C=5.4 D=5.2



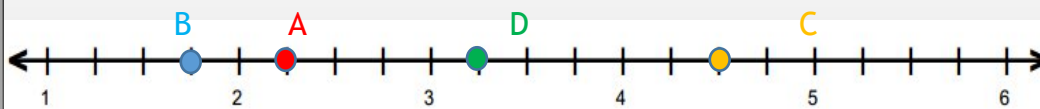
By looking closer we can find more decimals:

In the decimal number line if we look closer we can find more decimals. This continues as we continue down the decimal number line.

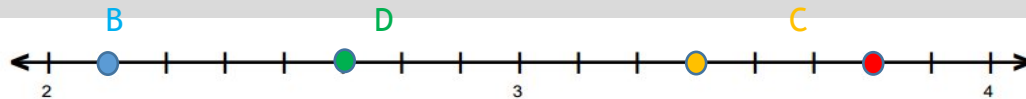


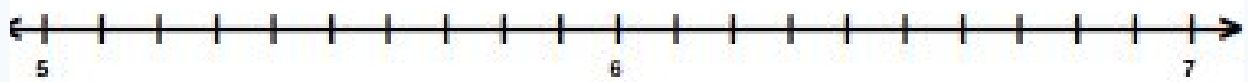
For example let's take the following numbers:

$$A = 2.25 \quad B = 3.25 \quad C = 1.75 \quad D = 4.5$$

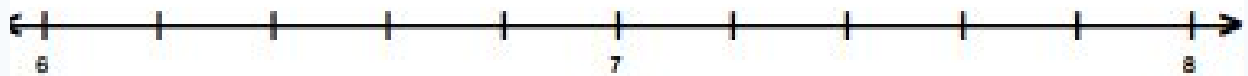


$$A = 3.75 \quad B = 2.125 \quad C = 3.375 \quad D = 2.625$$

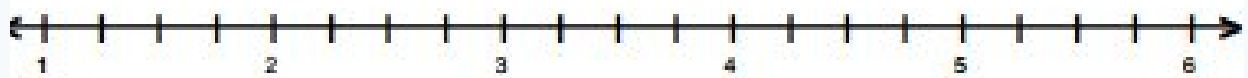




$A = \underline{5.5}$ $B = \underline{5.6}$ $C = \underline{5.3}$ $D = \underline{6.9}$



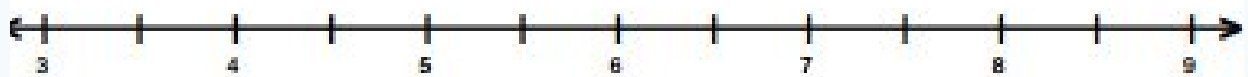
$A = \underline{7.8}$ $B = \underline{6.2}$ $C = \underline{7.4}$ $D = \underline{7.6}$



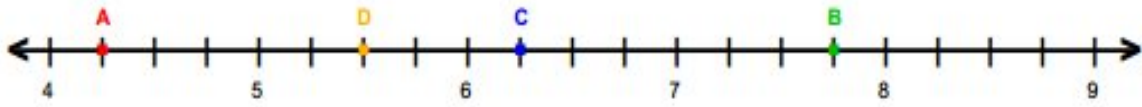
$A = \underline{2.25}$ $B = \underline{3.25}$ $C = \underline{1.75}$ $D = \underline{4.5}$



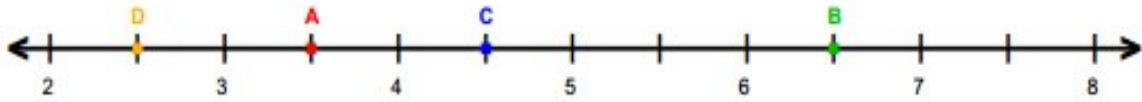
$A = \underline{3.75}$ $B = \underline{2.125}$ $C = \underline{3.375}$ $D = \underline{2.625}$



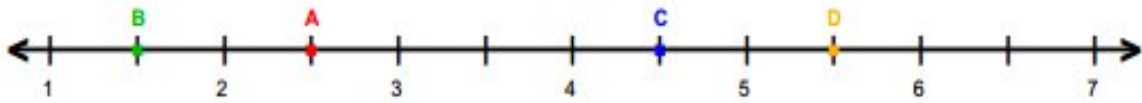
$A = \underline{3.5}$ $B = \underline{4.5}$ $C = \underline{5.5}$ $D = \underline{7.5}$



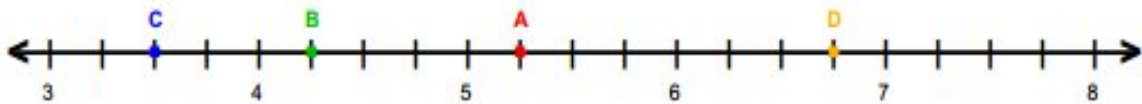
A = _____ B = _____ C = _____ D = _____



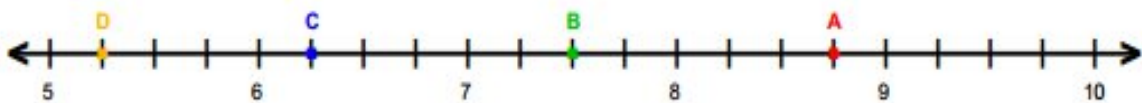
A = _____ B = _____ C = _____ D = _____



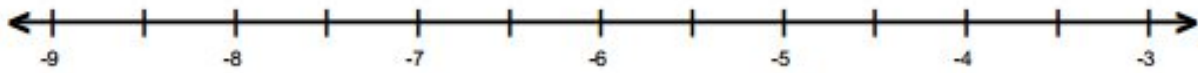
A = _____ B = _____ C = _____ D = _____



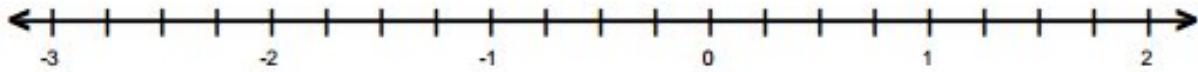
A = _____ B = _____ C = _____ D = _____



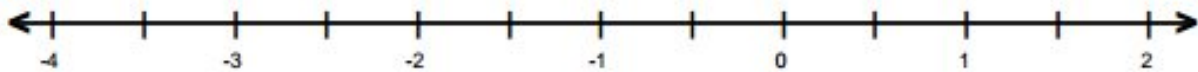
A = _____ B = _____ C = _____ D = _____



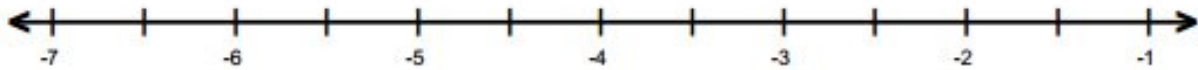
$A = -8.5$ $B = -7.5$ $C = -5.5$ $D = -4.5$



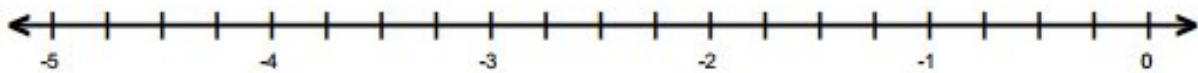
$A = 0.25$ $B = -2.5$ $C = -1.75$ $D = 1.25$



$A = -3.5$ $B = 0.5$ $C = -1.5$ $D = 1.5$



$A = -6.5$ $B = -3.5$ $C = -5.5$ $D = -4.5$



$A = -3.25$ $B = -1.25$ $C = -4.75$ $D = -2.5$

Multiplication of Decimals

Multiplication:

Explanation:

To multiply decimals numbers you must follow these steps:

- Multiply the numbers normally, ignore the decimal point
- Then put the decimal point in the answer - it will have as many decimal places as the two original numbers combined

Note: The answer should have that many numbers after its decimals which can be counted up be how many numbers are after the decimal point in both numbers you are multiplying.

Work Examples:

Multiply 0.04 by 1.5

$$0.04 \times 1.5 =$$

$$4 \times 15 = 60 \text{ (multiply without the decimals)}$$

0.04 has 2 decimal places

1.5 has 1 decimal places

i.e. the answer will have 3 decimal places 0.06

Work Examples:

Multiply 0.5 by 9.5

$$0.5 \times 9.5 =$$

$$5 \times 95 = 475 \text{ (multiply without the decimals)}$$

0.5 has 1 decimal places

9.5 has 1 decimal places

i.e. the answer will have 2 decimal places 47.5

How does this all work?

When you multiply without the decimal point, you are moving the decimal point to the right to get it out of the way:

Original:		1 Move:		2 Moves:		3 Moves:
0.04×1.5		0.4×1.5		$4. \times 1.5$		$4. \times 15.$

Then the multiplication:

$$4. \times 15. = 60.$$

But remember, we did 3 Moves of the decimal point, so we need to undo that:

3 Moves:		2 Moves:		1 Move:		Correct
55.		5.5		0.55		0.055

Example 1

Multiply 0.75 by 34.5

$$0.75 \times 34.5 =$$

$75 \times 345 = 25975$ (multiply without the decimals)

0.75 has 2 decimal places

34.5 has 1 decimal place

i.e. the answer will have 3 decimal places

Example 2

Multiply 0.78 by 105

$$0.78 \times 105 =$$

$78 \times 105 = 8190$ (multiply without the decimals)

0.78 has 2 decimal places

105 has 0 decimal places

i.e. the answer will have 2 decimal places 81.90

Solve the following:

1: 0.2 × 7.1	2: 4.0 × 0.4	6.0 × 0.9	4: 7.5 × 1.8	5: 9.0 × 0.8
6: 4.0 × 0.8	7: 0.8 × 7.0	0.2 × 1.0	9: 0.8 × 8.0	10: 0.4 × 9.0

1: 6.5 × 0.5	2: 4.3 × 0.9	3: 7.0 × 1..9	4: 7 × 10.1	5: 4.0 × 1.9
6: 4.0 × 1.6	7: 7.0 × 8.0	8: 5.4 × 3.0	9: 7.0 × 0.5	10: 9.0 × 1.7

1: 0.5 × 7.00	2: 7.8 × 8.9	3: 7 × 4.2	4:	7.3 × 8.0	5: 3.2 × 1.7
6: 20.0 × 2.6	7: 71.0 × 7.4	8: 37.0 × 7.4	9:	58.0 × 5.0	10: 89.0 × 5.4

Division of Decimals

Division:

Explanation:

To divide decimals numbers you must follow these steps:

- Divide decimals numbers by ignoring the decimal point
- Then put the decimal point in the same spot as the dividend

Divide 9.1/0.4

Ignore the decimal point and do the division

$$9.1/0.4$$

$$22.75$$

$$\begin{array}{r} 4 \overline{)91} \\ \underline{-88} \end{array}$$

$$30$$

$$\underline{-28}$$

$$020$$

$$\underline{-20}$$

$$00$$

(1) Solve the following

1a. $4.4 \div 0.4 =$

1 b. $6.8 \div 0.4 =$

2 a. $8.8 \div 0.8 =$

2 b. $1.4 \div 0.2 =$

3 a. $100.6 \div 22.2 =$

3 b. $3.0 \div 0.3 =$

4 a. $7.2 \div 1.6 =$

4 b. $68.4 \div 12.2 =$

5 a. $93.9 \div 0.300 =$

5 b. $9.6 \div 0.4 =$

(2) Solve the following

1
a

$$\cdot 3 \overline{) 9 \text{ . } 6 \text{ } 9 \text{ } 6}$$

1
b

$$\cdot 8 \overline{) 5 \text{ . } 5 \text{ } 9 \text{ } 0}$$

1
c

$$\cdot 6 \overline{) 6 \text{ . } 4 \text{ } 4 \text{ } 8}$$

2
a.

$$2 \overline{) 8 \text{ . } 6 \text{ } 4}$$

2 b.

$$12 \overline{) 80 \text{ . } 8}$$

2
c

$$\cdot 4 \overline{) 1 \text{ . } 6 \text{ } 3 \text{ } 2}$$