S1 MATHEMATICS - 3/JULY/2021

S1 MATEHEMATICS

FRACTIONS, DECIMALS AND PERCENTAGES

I) How to write a fraction as a decimal:

Examples:

a) write $\frac{3}{10}$ as a decimal.

b) Write $\frac{47}{100}$ as a decimal

c) Write $\frac{3}{4}$ as a decimal.

d) Write $\frac{3}{5}$ as a decimal.

Solutions:

a) $\frac{3}{10} = 3 \div 10 = 0.3$

b) $\frac{47}{100} = 47 \div 100 = 0.47$

c) $\frac{3}{4} = \frac{3x25}{4x25} = \frac{75}{100} = 75 \div 100 = 0.75$

d) $\frac{3}{5} = \frac{3x2}{5x2} = \frac{6}{10} = 6 \div 10 = 0.6$

II) How to write percentages as fractions or decimals.

Example:

Express 15% as i) fraction, ii) decimal.

Solution:

i) $15\% = \frac{15}{100}$ as a fraction.

ii) $15\% = 15 \div 100 = 0.15$ *as a decimal.*

III) Expressing a fraction as a percentage.
Note "percentage" means "out of a hundred"

Examples:

a) Write 0.75 as a percentage

b) Write $\frac{3}{8}$ *as a percentage*

c) Express 42% as a fraction.

SOLUTIONS:

a) $0.75 = \frac{75}{100} = 75\%$

b) $\frac{3}{8}$x100 $= \frac{300}{8} = 37.5\%$

c) $42\% = \frac{42}{100}$

$$= \frac{42}{100} = \frac{21}{50}$$

IV) Calculating percentages of quantities.

Example:

Find:

a) 15% of shs.80

b) 12% of 50 litres.

Solutions:

a) $\frac{15}{100}$ x$shs80$

$$\frac{15x80}{100}$$
$$= sh.12$$

b)
$\frac{12}{100}x50\ litres$

$$= \frac{12x50}{100}$$
$$= 6\ litres$$

V) How to arrange numbers in order of size starting with the smallest (Ascending order)

$\frac{4}{5}, \frac{17}{20}, 0.75, 82\%\ and\ \frac{73}{100}$

Solution:

Note: You must first convert all the given numbers into percentages then thereafter arrange the percentages into ascending order.

$\frac{4}{5}x100 = 80\%$

$\frac{17}{20}x100 = 85\%$

$0.75 = \frac{75}{100}x100 = 75\%$

$\frac{82}{100}x100 = 82\%$

$\frac{73}{100}x100 = 73\%$

$\therefore$ *In Ascending order*

73%,75%,80%,82% and 85%

$\frac{73}{100}, 0.75, \frac{4}{5}, 82\% \; and \; \frac{17}{20}$

Exercise

1. Change these test scores into percentages.

a) 7 out of 10

b) 36 out of 80

c) 105 out of 150.

2. Write as a percentage.

a) 72km have been travelled out of a journey of 200km.

b) The distance still left to travel in part a.

c) A score of $\frac{66}{150}$ *in a test.*

d) 120g out of 400g in a recipe is flour.

3. Copy and complete the table:

Percentage	**Fraction**	**Decimal**
38%		
	4/5	
		0.02

4. Find :

a) 10% of \$50

b) 20% of 10cm

c) 50% of 8km

d) 5% of \$60

e) 1.5% of 50 litres

f) $3\frac{1}{3}$% of 500m

g) 0.125% of 25g

5.

SCHOOL REPORT			
NAME: KATO JAMES			
	1ST TERM	2ND TERM	3RD TERM
SUBJECT			
ENG	135/150	43/50	70/100
KISW	38/40	89/100	166/200
BIO	68/100	72/100	47/100
HIST	108/150	96/120	84/100

Each mark is shown as a fraction of the full marks for the subject.

Copy the school report above and show the marks as percentages.

6. Looking at the report you completed above:

a) Did James' History marks improve over the year?

b) In the first term, which of his marks was highest?

c) In which subject and which term did he get his highest mark?

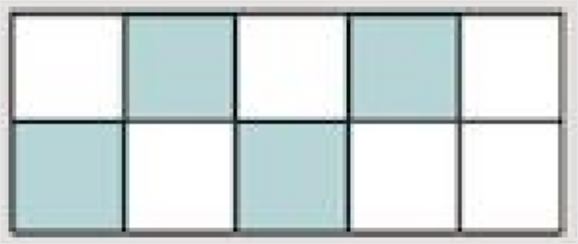
7. Which of these is larger?

a) $\frac{3}{5} or$ 65%

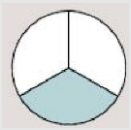
b) 0.4 or 41%

8. which of these diagrams has 40% shaded?

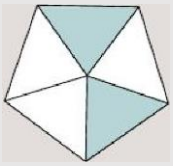
a)



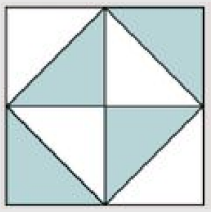
b)



c)



d)



9. Write these numbers in ascending order.

$\frac{11}{20}, 53\%, \frac{13}{25}, 0.51, \frac{54}{100}$

10. Copy out the text below. Draw lines to show the calculations that have the same answer. One has been done for you.

$\frac{3}{4}$ of 32	$\frac{2}{13}$ of 169
$\frac{2}{3}$ of 39	30% of 80
40% of 75	20% of 280
35% of 160	$\frac{5}{12}$ of 72