

Q1: Choose the correct answer :-

1 $4 \div \frac{1}{3} =$ -----

1			1			1			1		
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

- (a) $\frac{3}{4}$ (b) 4 (c) 6 (d) 12

2 $\frac{1}{2} \div 8 =$ -----

$\frac{1}{2}$							
$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

- (a) 4 (b) $\frac{1}{4}$ (c) $\frac{1}{8}$ (d) $\frac{1}{16}$

3 $\frac{1}{4} \div 5 =$ -----

$\frac{1}{4}$				
$\frac{1}{20}$	$\frac{1}{20}$	$\frac{1}{20}$	$\frac{1}{20}$	$\frac{1}{20}$

- (a) 5 (b) 20 (c) $\frac{4}{5}$ (d) $\frac{1}{20}$

4 $\frac{2}{7} \div 2 =$ -----

- (a) 7 (b) 4 (c) $\frac{4}{7}$ (d) $\frac{1}{7}$

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

- (a) 10 (b) 15 (c) $\frac{15}{6}$ (d) $\frac{1}{2}$

6 $\frac{4}{5} \div \frac{1}{2} =$ -----

- (a) $1\frac{4}{5}$ (b) $1\frac{3}{5}$ (c) $\frac{4}{10}$ (d) $\frac{2}{5}$

7 $\frac{3}{8} \div \frac{3}{4} =$ -----

- (a) $1\frac{1}{8}$ (b) 2 (c) $\frac{9}{39}$ (d) $\frac{1}{2}$

8 $5 \div \frac{1}{2} = \text{-----}$

(a) 10

(b) 1

(c) $\frac{2}{5}$

(d) $\frac{5}{2}$

9 $\frac{3}{4} \div 3 = \text{-----}$

(a) 1

(b) $\frac{4}{3}$

(c) $\frac{3}{4}$

(d) $\frac{1}{4}$

10 $\frac{4}{11} \div \frac{1}{2} = \text{-----}$

(a) $\frac{4}{22}$

(b) $\frac{8}{11}$

(c) $\frac{11}{8}$

(d) $\frac{2}{11}$

11 $\frac{4}{7} \div \text{-----} = 1\frac{1}{2}$

(a) $\frac{6}{7}$

(b) $\frac{8}{21}$

(c) $\frac{21}{8}$

(d) $\frac{7}{6}$

12 $\frac{2}{5} \times \text{-----} = \frac{4}{15}$

(a) $\frac{2}{3}$

(b) $\frac{1}{3}$

(c) $\frac{3}{2}$

(d) 3

13 How many $\frac{1}{6}$'s are there in $\frac{1}{2}$ apple?

(a) 12

(b) 1

(c) 3

(d) $\frac{5}{2}$

14 $0.56 \times 0.2 = \text{-----}$

(a) 11.12

(b) 0.112

(c) 11.2

(d) 0.0112

15 $54.45 \div 0.9 = \text{-----}$

(a) 60.5

(b) 605

(c) 0,605

(d) 6.05

- 16 $4.8 \div 0.16 = \text{-----}$
- (a) 3 (b) 30 (c) 300 (d) 0.3
- 17 $87.29 \div 0.29 = 872.9 \div \text{-----}$
- (a) 2.9 (b) 29 (c) 290 (d) 0.29
- 18 $321 \div 24 = 3.21 \div \text{-----}$
- (a) 2.4 (b) 0.24 (c) 24 (d) 2004
- 19 If $127,92 \div 4.1 = 31.2$, then $12.792 \div 4.1 = \text{-----}$
- (a) 312 (b) 0.312 (c) 3.12 (d) 31.2
- 20 If the ratio between two numbers is 1 : 3 and the first number is 3 , then the second number is -----
- (a) 3 (b) 6 (c) 9 (d) 12
- 21 If the ratio of the number of red balls to the number of blue balls is 3 : 4 and the number of blue is 24, then the number of red is -----
- (a) 18 (b) 32 (c) 44 (d) 12
- 22 The next ratio of 3 : 6 , 6 : 12 , 12 : 24 , -----
- (a) 24 : 48 (b) 36 : 72 (c) 24 : 27 (d) 12 : 48
- 23 The next ratio of 2 : 5 , 6 : 15 , 18 : 45 , -----
- (a) 54 : 90 (b) 36 : 90 (c) 54 : 135 (d) 54 : 180
- 24 If the ratio between a and b is 1:4 and the sum of a and b is 20 , then b = -----
- (a) 16 (b) 5 (c) 4 (d) 80

25 ----- $\times \frac{2}{7} = 1$

- (a) zero (b) 1 (c) $\frac{2}{7}$ (d) $\frac{7}{2}$

26 $5 \div \frac{1}{3} =$ -----

- (a) 15 (b) $5 \frac{1}{3}$ (c) $\frac{3}{5}$ (d) $\frac{5}{3}$

27 $\frac{2}{3} \div \frac{1}{2} =$ -----

- (a) $\frac{4}{15}$ (b) $1 \frac{1}{3}$ (c) $\frac{15}{4}$ (d) $\frac{1}{15}$

28 $\frac{3}{4} \div 2 =$ -----

- (a) $\frac{3}{8}$ (b) $\frac{6}{4}$ (c) $\frac{4}{6}$ (d) $\frac{3}{2}$

29 $2.1 \times 0.3 =$ -----

- (a) 6.3 (b) 0.63 (c) 63 (d) 0,063

30 If $15.25 \div 0.25 = 61$, then $1.525 \div 0.025 =$ -----

- (a) 61 (b) 610 (c) 6.1 (d) 0.61

31 By using the opposite model

what is the quotient of $3 \div \frac{2}{3}$

1			1			1		
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

- (a) 2 (b) $4 \frac{1}{2}$ (c) $\frac{3}{2}$ (d) $\frac{2}{3}$

32 If the ratio between oranges and bananas is 3 : 4 and the number of bananas is 20, then the difference between them is -----

- (a) 1 (b) 5 (c) 15 (d) 20

33 ----- $\div \frac{1}{4} = 1$

- (a) 0.4 (b) 1 (c) 4 (d) $\frac{1}{4}$

34 $\frac{2}{3}$ of 27 = -----

- (a) 27 (b) 18 (c) 9 (d) 3

35 $3.3 \times 1.1 =$ -----

- (a) 3630 (b) 363 (c) 36.3 (d) 3.63

36 $0.33 \div 0.011 =$ ----- $\div 11$

- (a) 33 (b) 330 (c) 3300 (d) 0.33

37 If the ratio between two numbers is 3:7 and sum of two numbers is 60 then the greater number is -----

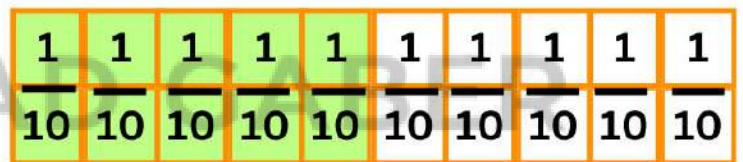
- (a) 18 (b) 6 (c) 42 (d) 49

38 you can use the opposite model to solve the problem

- (a) $\frac{1}{10} \div \frac{1}{2}$ (b) $\frac{1}{10} \div 5$

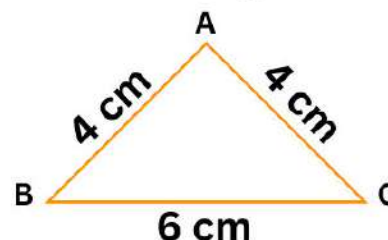


- (c) $\frac{1}{2} \div 5$ (d) $\frac{1}{2} \div 10$



39 In the opposite figure : The ratio between length of \overline{AB} and perimeter of $\triangle ABC$ is -----

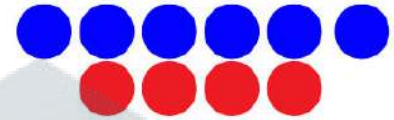
- (a) 1:10 (b) 2:3
(c) 6:8 (d) 2:7



40 The ratio between 6 : 14 in the simplest form is 3 : -----

- (a) 2 (b) 3 (c) 11 (d) 7

41 The ratio between red circles and the total number of circles in simplest form is -----



- (a) 4 : 8 (b) 4 : 6 (c) 2 : 3 (d) 2 : 5

42 The ratio between two side lengths of square is -----

- (a) 1 : 4 (b) 2 : 4 (c) 1 : 2 (d) 1 : 1

43 To find the simplest form of the ratio 6 : 12, we divide the two terms by -----

- (a) 1 (b) 2 (c) 6 (d) 12

44 If the ratio between apples to oranges is 4 : 7 then ratio between oranges to apples is -----

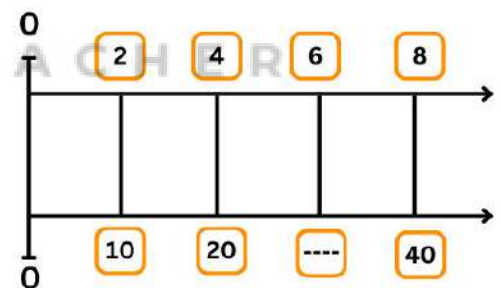
- (a) 4 : 7 (b) 7 : 4 (c) 4 : 11 (d) 7 : 11

45 Which ratio means the same thing as 19 : 1 ?

- (a) 1 through 1 (b) 19 to 1 (c) 1 to 1 (d) $\frac{19}{19}$

46 The missing number in the following double number line is -----

- (a) 10 (b) 15
(c) 30 (d) 25



47 If 2 : 7 is equivalent to x : 21 ,then x = -----

- (a) 7 (b) 6 (c) 21 (d) 12

48 If $\frac{8}{x}$ is equivalent to $\frac{1}{2}$, then x = -----

- (a) 4 (b) 8 (c) 16 (d) 40

49 Which ratio is equivalent to 95 : 100 ?

- (a) 100 : 95 (b) 180 : 200 (c) $\frac{9.5}{1}$ (d) $\frac{285}{300}$

50 Which of the following ratios is NOT equivalent to $\frac{32}{64}$

- (a) 18 : 34 (b) $\frac{16}{32}$ (c) $\frac{64}{128}$ (d) $\frac{4}{8}$

51 Which pair shows equivalent ratios ?

- (a) 5 to 7 and 7 to 9 (b) 6 : 9 and 3 : 2 (c) $\frac{18}{36}$ and $\frac{3}{6}$ (d) $\frac{9}{32}$ and $\frac{3}{8}$

52 If ratio between number of boys and girls is 3 : 5 then the ratio between girls to total number is -----

- (a) 3 : 5 (b) 3 : 8 (c) 5 : 8 (d) 5 : 3

53 If $\frac{x}{2} = \frac{2}{1}$, then X = -----

- (a) 4 (b) 9 (c) 10 (d) 8

54 From the following equivalent ratios, B + A = -----

- (a) 5 (b) 25
(c) 31 (d) 2 : 3

2	6	B
5	A	25

55 If the ratio between the number of oranges and the number of apples is 3 : 5 and the number of apples is 15 , then the number of oranges is -----

- a
 3
 - b
 9
 - c
 5
 - d
 15

56 If the ratio between the number of red pens to the number of blue pens is 2 : 5 and the number of blue pens is more than the number of red pens by 6 pens , then the sum of all pens is -----

- a
 4
 - b
 7
 - c
 10
 - d
 14



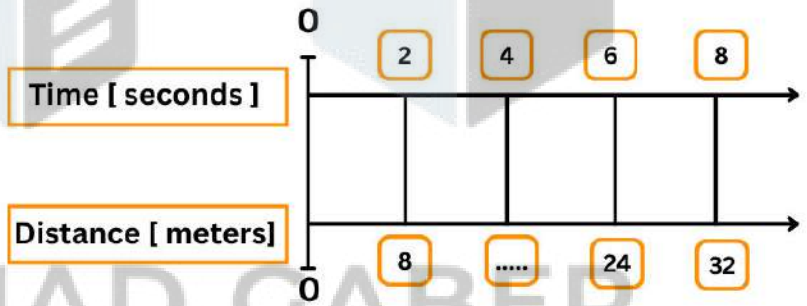
57 The opposite tape diagram represents the ratio -----

- a
 3 : 4
 - b
 5 : 3
 - c
 1 : 3
 - d
 3 : 5



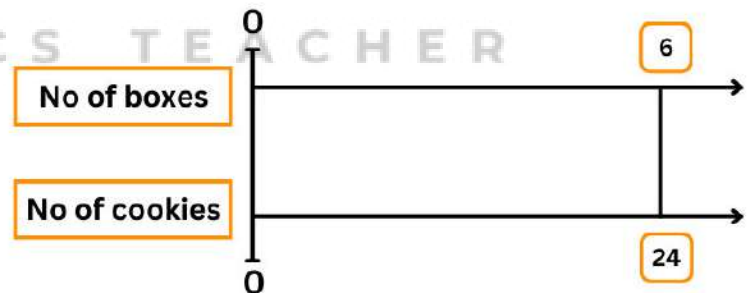
58 The missing number in the opposite double number line is

- a
 8
 - b
 18
 - c
 16
 - d
 12



59 Using the double number line the number of cookies in 3 boxes = -----

- a
 4
 - b
 8
 - c
 16
 - d
 12



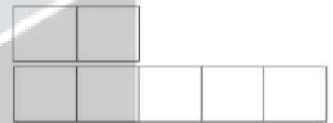
60 $25 : 50 = \text{-----}$

- (a) 10 : 5 (b) 1 : 2 (c) 2 : 1 (d) 5 : 1

61 If $\frac{3}{4} = \frac{x}{20}$, then $x = \text{-----}$

- (a) 7 (b) 15 (c) 21 (d) 24

62 The tape diagram represents the ratio -----



- (a) 5 : 2 (b) 3 : 2 (c) 7 : 2 (d) 2 : 5

63 Which of the following is equivalent to $\frac{8}{12}$

- (a) $\frac{10}{15}$ (b) $\frac{3}{4}$ (c) $\frac{3}{2}$ (d) $\frac{1}{2}$

64 In the opposite figure, the ratio between number of red squares and number of green squares = ----



- (a) 5 : 2 (b) 3 : 4 (c) 7 : 2 (d) 2 : 3

65 Which of the following is NOT equivalent to $\frac{14}{21}$

- (a) $\frac{2}{3}$ (b) $\frac{16}{24}$ (c) $\frac{18}{27}$ (d) $\frac{4}{2}$

66 In the opposite tape diagrams. If the number of boys is 20, then the number of girls = -----



Boys



Girls

- (a) 16 (b) 20 (c) 24 (d) 30

67 Which of the following are equivalent ?

- (a) $\frac{18}{20}, \frac{27}{30}, \frac{1}{3}$ (b) $\frac{18}{20}, \frac{9}{10}, \frac{27}{30}$ (c) $\frac{9}{10}, \frac{16}{20}, \frac{36}{40}$ (d) $\frac{2}{9}, \frac{4}{18}, \frac{8}{27}$

68 If $\frac{a}{b} = \frac{c}{d}$. Which of the following is true ?

- (a) $a \times b = c \times d$ (b) $a \times c = b \times d$ (c) $a \times d = c \times b$ (d) $c \times b = d \times b$

69 Which of the ratios in each pair are equivalent ?

- (a) $\frac{10}{8}, \frac{15}{12}$ (b) $\frac{6}{2}, \frac{8}{2}$ (c) $\frac{3}{12}, \frac{4}{1}$ (d) $\frac{5}{10}, \frac{3}{9}$

70 If $\frac{x+2}{5} = \frac{28}{35}$, then X = -----

- (a) 4 (b) 2 (c) 6 (d) 8

71 $\frac{3}{5}$ is NOT equivalent to -----

- (a) $\frac{6}{10}$ (b) $\frac{9}{15}$ (c) $\frac{12}{25}$ (d) $\frac{18}{30}$

72 If $\frac{3}{0.5} = \frac{x}{1}$, then X = -----

- (a) 2 (b) 3 (c) 6 (d) 9

Q2: Complete the following :-

1 $4.2 \div 0.7 = \frac{42}{7} = 6$

2 $0.28 \div 0.04 = \frac{28}{4} = 7$

3 $76.5 \div 7.65 = \frac{76.5 \times 100}{7.65 \times 100} = \frac{7650}{765} = 10$

4 $\frac{35}{42} = \frac{5}{6}$

5 $\frac{13}{12} = \frac{26}{24}$

6 $\frac{8}{7} \times \frac{7}{8} = 1$

7 $\frac{1}{4} \div \frac{1}{2} = \frac{1}{2}$

8 $\frac{15}{5} = 3$

9 $\frac{1}{7} \div \frac{5}{7} = \frac{1}{5}$

Q3: Answer the following :-

1 Find each ratio in simplest form.

a $49 : 56$ $7 : 8$ b $24 : 30$ $4 : 5$

2 Show which of the following ratios are equivalent or not equivalent.

a $\frac{20}{24}, \frac{18}{27}$ $\frac{20}{24} = \frac{5}{6}$ and $\frac{18}{27} = \frac{2}{3}$ (not)

b $\frac{36}{18}, \frac{48}{24}$ $\frac{36}{18} = 2, \frac{48}{24} = 2$ (Equivalent)

3 Find the result of each of the following. Simplify if possible.

a $45 \div \frac{9}{10} = 45 \times \frac{10}{9} = 50$

b $\frac{3}{5} \div 6 = \frac{3}{5} \times \frac{1}{6} = \frac{1}{10}$

- 4 A runner covered $\frac{2}{3}$ kilometers in 4 laps.
How many kilometers did he make in one Lap?

$$\frac{2}{3} \div 4 = \frac{2}{3} \times \frac{1}{4} = \frac{1}{6}$$

- 5 Sameh has 6 liters of milk. He needs to divide it into small bottles of $\frac{3}{4}$ liters each. How many bottles will he need ?

$$6 \div \frac{3}{4} = 6 \times \frac{4}{3} = 8$$

- 6 You have $\frac{3}{4}$ meters of pipe, how many pieces can you cut the pipe into if each piece is $\frac{1}{8}$ meters ?

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times 8 = 6$$

- 7 You have $\frac{9}{10}$ kilogram of clay. You want to make portions that are $\frac{2}{5}$ kg each.

- a Draw a tape diagram that would represent sharing $\frac{9}{10}$ kg of clay in $\frac{2}{5}$ kg portions. *Draw yourself*

$$\frac{9}{10} \div \frac{2}{5} = 2\frac{1}{4}$$

- b How many portions can you make ?

There are two $\frac{2}{5}$ s in $\frac{9}{10}$, with left over $\frac{1}{4}$

- 8 Baher covered $\frac{2}{3}$ km in 5 minute.

What is the distance covered in one minute ?

$$\frac{2}{3} \div 5 = \frac{2}{3} \times \frac{1}{5} = \frac{2}{15} \text{ km}$$

- 9 If the price of one meter of cloth is 9.8 1.E.

What is the cost of 1.5 meters of cloth ?

$$9.8 \times 1.5 = 14.7 \text{ 1.E}$$

- 10 By using the modeling division find the quotient.

a $\frac{3}{4} \div \frac{2}{5}$

$$\frac{3}{4} \times \frac{5}{2} = \frac{15}{8}$$

b $\frac{2}{3} \div 4$

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

Draw yourself

- 11 A car covered a distance of 221.65 km in 2.75 hours. Calculate the distance it covered in one hour.

$$221.65 \div 2.75 = 80.6 \text{ km}$$

- 12 You have $\frac{3}{4}$ meters of pipe, how many pieces can you cut the pipe into if each piece is $\frac{1}{8}$ meters ?

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times 8 = \frac{24}{4} = 6$$

- 13 Many wants to make sandwiches for a class picnic with $\frac{2}{9}$ of a kilogram of sugar. If each sandwich needs $\frac{3}{18}$ of a kilogram of sugar, then how many sandwiches can be made ?

$$\frac{2}{9} \div \frac{3}{18} = \frac{2}{9} \times \frac{18}{3} = \frac{4}{3} = 1\frac{1}{3}$$

- 14 A piece of land of area 5 km^2 was divided equally among farmers. If each farmer took $\frac{5}{8} \text{ km}^2$, then find the number of farmers

$$5 \div \frac{5}{8} = 5 \times \frac{8}{5} = 8$$

- 15 If the price of one meter of cloth is 6.45 L.E what is the cost of 2.4 meters of cloth ?

$$2.4 \times 6.45 = 15.48 \text{ L.E}$$

- 16 A train covered a distance of 220.5 km in 2.5 hours. Calculate the distance it covered in one hour.

$$\begin{aligned} 220.5 \div 2.5 & \quad (\times 10) \\ &= 2205 \div 25 \\ &= 88.2 \text{ km} \end{aligned}$$

- 17 Adam says that the ratios 3 : 5 and 2 : 10 are equivalent.

Is he correct? Explain.

First ratio is 3:5, the 2nd ratio is 2:10
1:5
3:5 \neq 1:5, so Adam is not correct

- 18 A runner covers 8 kilometers in 2 hours.

Find the distance he covers in 4 hours at the same speed.

$$\frac{8}{2} = \frac{[x]}{4} \quad x = 16 \text{ km}$$

- 19 Ahmed bought 3 kg of banana he paid 45 L.E.

How much money does he pay to buy 6 kg?

$$\frac{3}{45} = \frac{6}{[y]} \quad y = 90 \text{ L.E.}$$

- 20 Find:

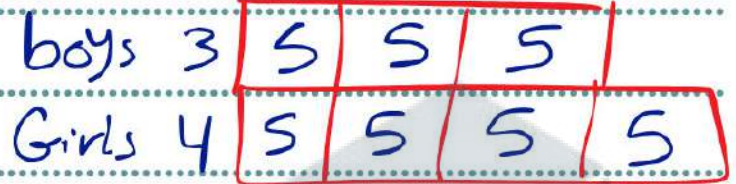
(a) $4.2 \div 0.06 = 70$ (b) $1.2 \times 0.3 = 0.36$

(c) $\frac{2}{3}$ of $\frac{3}{2} = 1$ (d) $5 \div \frac{5}{9} = 9$

- 21 If the ratio between boys and girls is 3 : 4 and the number of girls is 20 , then find the number of boys using tape diagram .

Using tape diagram

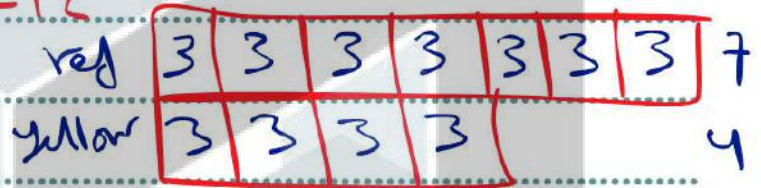
boys = 15



- 22 If the ratio between the number of red flowers to yellow is 7 : 4 . If there are 9 more red flowers than yellow how many flowers in all ?

red = 21 , yellow = 12

sum = 21 + 12
= 33



- 23 If the ratio between the number of cats and dogs is 2 : 7 and the sum of them is 27 . find the number of each using tape diagram .

Cats = 6

Dogs = 21

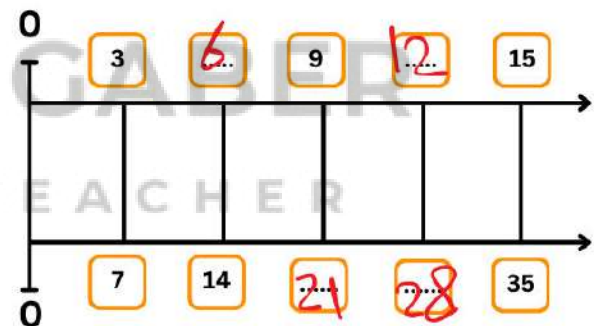
draw yourself

24

- a Complete the following double number line using the given ratio.

- a Write three equivalent ratios .

$\frac{3}{7} = \frac{6}{14} = \frac{12}{28}$



- 25 Malika has 3 red flowers and 4 white flowers . Marwan has 9 red flowers and 12 white flowers . Are the ratio between number of red and white flowers are equivalent with Malika and Marwan ?

Malika \rightarrow red : white = 3 : 4

Marwan \rightarrow red : white = 9 : 12 = 3 : 4

So, they are equivalent

- 26 Find the missing value .

a $\frac{3}{4} = \frac{x}{12}$

$x = 9$

b $\frac{m}{20} = \frac{7}{4}$

$m = 35$

c $\frac{2}{7} = \frac{6}{z}$

$z = 21$

- 27 Show which of the following ratios are equivalent or NOT by simplify , multiply or divide .

a $\frac{5}{10} = \frac{4}{8}$

$\frac{5}{10} = \frac{1}{2}$
 $\frac{4}{8} = \frac{1}{2}$ Equivalent

b $\frac{4}{16} = \frac{2}{12}$

$\frac{4}{16} = \frac{1}{4}$ $\frac{2}{12} = \frac{1}{6}$ (Not)

c $\frac{8}{76} = \frac{12}{9}$

$\frac{8}{76} = \frac{2}{19}$ $\frac{12}{9} = \frac{4}{3}$ (Not)

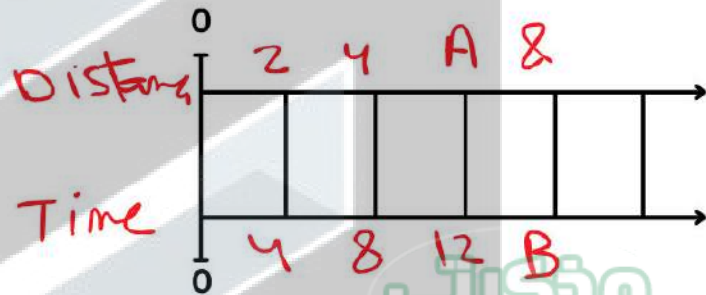
- 28 In a juice shop 3 kilograms of strawberry were squeezed to provide 9 cups of juice to customers. If 6 kilograms were squeezed, how many cups can be served to customers ?

$$\frac{3}{9} = \frac{6}{x} \quad x = 18$$

- 29 The following table shows the covered distance of cat in meters and the time taken in seconds. Represent this data by double number line and find the value of A and B .

$$A = 6 \quad B = 16$$

Distance in meters	2	4	A	8
Time in seconds	4	8	12	B



- 30 If Wael has 40 L.E. and Ahmed has 32 L.E. Find:

- a) The ratio between what Wael has and what Ahmed has in simplest form.

$$\text{Wael} : \text{Ahmed} = 40 : 32 = 5 : 4$$

- b) The ratio between what Ahmed has and what Wael has in simplest form

$$\text{Ahmed} : \text{Wael} = 32 : 40 = 4 : 5$$

- 31 Ahmed bought 3 kg of banana he paid 45 L.E. How much money does he pay to buy 6 kg ?

$$\frac{3}{45} = \frac{6}{y} \quad y = 90$$

32 If Mazen has 20 L.E. and Ahmed has 14 L.E. Find:

- (a) The ratio between what Mazen has and what Ahmed has in simplest form.

$$\begin{aligned} \text{Mazen} &: \text{Ahmed} \\ 20 &: 14 \\ 10 &: 7 \end{aligned}$$

- (b) The ratio between what Ahmed has and what Mazen has in simplest form

$$\begin{aligned} \text{Ahmed} &: \text{Mazen} \\ 14 &: 20 \\ 7 &: 10 \end{aligned}$$

- (c) The ratio between what Mazen has and the total sum of money in simplest form.

$$\begin{aligned} \text{Mazen} &: \text{total} \\ 20 &: 34 \\ 10 &: 17 \end{aligned}$$

33 Write each of the following ratios in its simplest form.

(a) 6 : 8

$$3 : 4$$

(b) 15 : 24

$$5 : 8$$

(c) 21 : 9

$$7 : 3$$

34 Find the product.

(a) $2.03 \times 0.07 =$

$$0.1421$$

(b) $9.4 \times 6.8 =$

$$63.92$$



MUHAMMAD GABER

MATHEMATICS TEACHER