

Name: _____

Questions:

Expand the following and solve:

- 1: a) 10^3 : $10 \times 10 \times 10$ ✓ = 1000 ✓
b) 5 to the power of 5: $5 \times 5 \times 5 \times 5 \times 5$ ✓ = 3125 ✓
c) 4 to the power of 6: $4 \times 4 \times 4 \times 4 \times 4 \times 4$ ✓ = 4096 ✓
d) 8^4 : $8 \times 8 \times 8 \times 8$ ✓ = 4096 ✓

(4 marks)

2: List ALL the prime numbers between 30 and 90:

- $33, 35, 37, 39, 43, 45, 47, 49, 53, 55, 57, 59, 63, 65, 67, 69, 73$
 $75, 77, 79, 83, 85, 87, 89$ ✓

(1 mark)

3: i) List ALL the factors of the numbers in each question below.

ii) Identify the highest common factor (HCF) between them.

- a) 36: $1, 2, 3, 4, 6, 9, 12, 18, 36$ ✓
63: $1, 3, 7, 9, 21, 63$ ✓
HCF: 9 ✓
- b) 99: $1, 9, 11, 33, 99$ ✓
66: $1, 2, 3, 6, 11, 33, 66$ ✓
HCF: 33 ✓

$5\frac{1}{2}$

(6 marks)

4: List the first 10 multiples of the numbers in each question, then find the lowest common multiple (LCM) between them:

- a) 12: $12, 24, 36, 48, 60, 72, 84, 96, 108, 120$ ✓ 4
4: $4, 8, 12, 16, 20, 24, 28, 32, 36, 40$ ✓
LCM: 12 ✓
- b) 2: $2, 4, 6, 8, 10, 12, 14, 16, 18, 20$ ✓
3: $3, 6, 9, 12, 15, 18, 21, 24, 27, 30$ ✓
5: $5, 10, 15, 20, 25, 30, 35, 40, 45, 50$ ✓

What fraction of 4 metres is 25 cm?

$$\frac{25}{100} = \frac{1}{4}$$

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

①

12: A carton has a mass of 12 kg. If it contains 30 cans of beans, what is the mass of each can (ignoring the weight of the carton)?

$$0.4 \text{ kg}$$

①

13: Change 160 seconds into minutes and seconds.

$$2 \text{ minutes } 40 \text{ seconds}$$

①

14: Add 5 days, 7 hours and 45 minutes to 3 days, 8 hours and 25 minutes.

$$8 \text{ days } 16 \text{ hours } 10 \text{ minutes}$$

①

Circle the correct answer (1 mark each):

15: To measure the mass of a dog, the most suitable unit to use would be:

A: metre B: gram C: tonne D: kilogram

16: The angle between the hands of a clock at 3 o'clock is:

A: 30° B: 60° C: 80° D: 90°

17: How many metres are there in $3 \frac{1}{2}$ km?

$$3500 \text{ m}$$

18: The square root of 5^2 is:

A: 3 B: 4 C: 5 D: 6

19: The lowest common multiple (LCM) of 4 and 6 is:

A: 4 B: 6 C: 8 D: 12

20: The sum of the first four prime numbers greater than 3 is:

A: 26 B: 36 C: 46 D: 53

21: Write $7 \times 7 \times 7 \times 7 \times 7$ in the index form:

$$7^5 = 16807$$

22: a) Complete the table:

Favourite colour	Frequency	Fraction	Decimal	Percentage	Degrees (to 1 d.p.)
Red	6	$\frac{6}{25}$	0.24	24% /	86.4
Blue	7	$\frac{7}{25}$	0.28 /	28% /	100.8
Yellow	5 /	$\frac{5}{25}$ /	0.20	20%	72
Aqua	5	$\frac{5}{25}$	0.20	20% /	72 /
Pink	2 /	$\frac{2}{25}$	0.08	8%	28.8 /
Total	25	$\frac{25}{25}$	1.00	100% /	360

LCM: _____ X

(5)
(6 marks)

5: Solve and simplify where possible:

a) $\frac{1}{10} + \frac{5}{10} = \frac{6}{10} = \frac{3}{5}$ ✓

b) $\frac{4}{5} + \frac{2}{3} = \frac{12}{15} + \frac{10}{15} = \frac{22}{15} = 1\frac{7}{15}$ ✓

c) $1\frac{1}{4} + \frac{3}{2} = \frac{22}{8} + \frac{12}{8} = \frac{34}{8} = 4\frac{1}{4}$ X

d) $\frac{5}{9} + \frac{6}{9} + \frac{2}{9} = \frac{5+6+2}{9} = \frac{13}{9} = 1\frac{4}{9}$ ✓

(4 marks)

6: Solve and simplify where possible:

(3)

a) $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$ ✓

b) $\frac{5}{9} - \frac{1}{9} = \frac{4}{9}$ ✓

c) $\frac{7}{10} - \frac{2}{5} = \frac{3}{10}$ ✓

d) $\frac{21}{25} - \frac{4}{5} = \frac{1}{25}$ ✓

(4 marks)

7:

a) $\frac{3}{7} \times \frac{5}{7} = \frac{15}{49}$ X

b) $\frac{5}{9} \times \frac{8}{9} = \frac{40}{81}$ X

c) $\frac{6}{13} \times \frac{9}{10} = \frac{54}{130}$ X

d) $\frac{11}{15} \times \frac{5}{6} = \frac{11}{18}$ ✓

(4 marks)

8:

a) $\frac{8}{9} \div \frac{1}{3} = \frac{8}{9} \times \frac{3}{1} = \frac{8}{3} = 2\frac{2}{3}$ ✓

b) $\frac{11}{16} \div \frac{3}{8} = \frac{11}{16} \times \frac{8}{3} = \frac{11}{6} = 1\frac{5}{6}$ ✓

b) $\frac{5}{21} \div \frac{5}{7} = \frac{5}{21} \times \frac{7}{5} = \frac{1}{3}$ ✓

d) $\frac{2}{5} \div \frac{6}{15} = \frac{2}{5} \times \frac{15}{6} = 1$ ✓

(4 marks)

Solve the following (1 mark each):

9: Find the perimeter of a square whose side length is 7 metres

28cm

(1)

10: How much grass do I need to cover a rectangular area with sides 7m long and 4 m wide?

28m²

(1)

b) From the table above find the:

i) Mean: 5 ✓

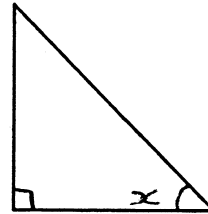
ii) Mode: 5 ✓

iii) Median: 5 ✓

c) On the blank paper provided draw a pie graph using the degrees data from the table above.
Include a title and key. (10 marks)

24. What does x represent in the triangle?

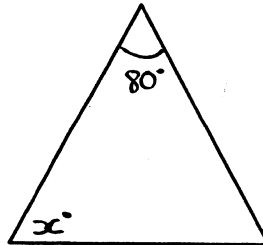
$x =$ 45° ✓



(1 mark)

25: what does x represent in the isosceles triangle?

$x =$ 50° ✓

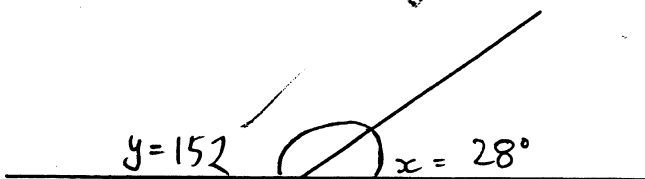


(1 mark)

26: a) label y in the diagram below.

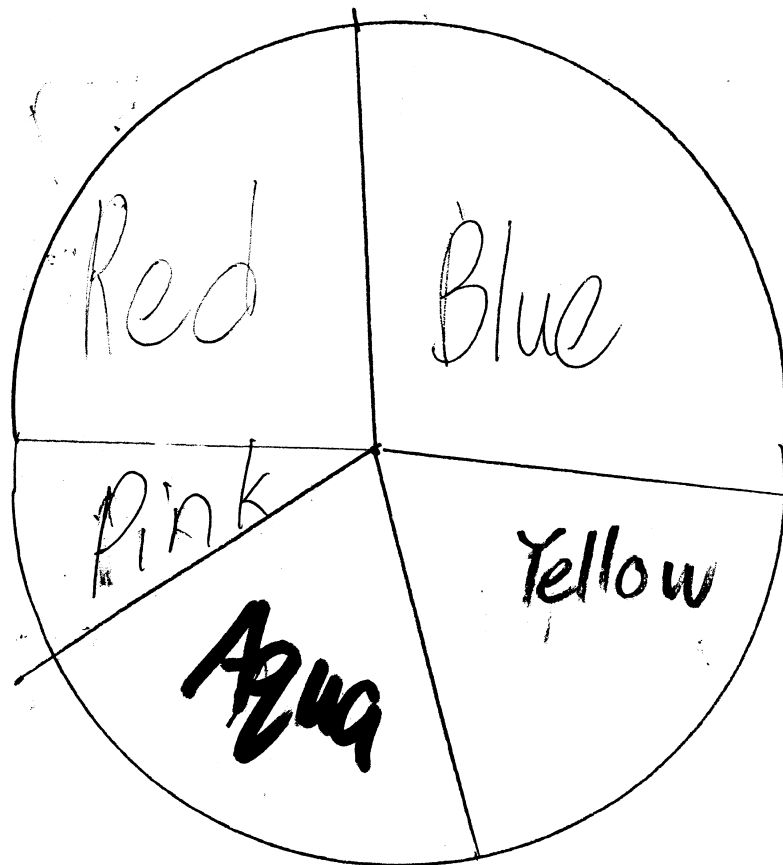
b) Identify the obtuse angle: 180° X

c) Identify the acute angle: 40° X



(3 marks)

Favourite Color ✓



Pie Graph

- Key ✓
- - Blue
 - - Red
 - - Yellow
 - - Aqua
 - - Pink