Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Thursday 16 May 2024

Morning (Time: 1 hour 30 minutes)

Paper reference **1MA1/1F**

Mathematics

PAPER 1 (Non-Calculator)

Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB or B pencil, eraser, Formulae Sheet (enclosed). Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B).
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used**.

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P76922A

P 7 6 9 2 2 A 0 1 2 4

Pearson

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write the number 18 475 correct to the nearest thousand.

1 8 4 7 5

10,000s 1000s 100s 10s 1s

18,000

(Total for Question 1 is 1 mark)

2 Write 0.3 as a percentage.

D ×100 → %

0.3 × 100 = 30

0.30

30 %

(Total for Question 2 is 1 mark)

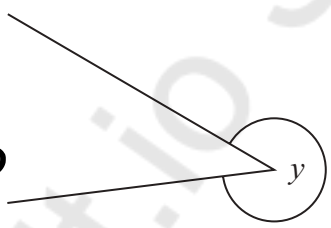
3 Write down the mathematical name for the type of angle marked *y*.

Acute < 90°

Right = 90°

Obtuse between 90 and 180

Reflex between 180 and 360



Reflex

(Total for Question 3 is 1 mark)

4 Write these numbers in order of size.
Start with the smallest number.

0.21 0.20 0.03 0.10 0.16

0.03 0.1 0.16 0.2 0.21

(Total for Question 4 is 1 mark)

5 Find the square root of 64

64 = 8 × 8

$\sqrt{64} = 8$

8

(Total for Question 5 is 1 mark)

6 Ryan buys

4 cakes at £1.30 each
2 identical tins of soup.

Ryan pays with a £10 note.
He gets £1.80 change.

How much does Ryan pay for each tin of soup?

Paid

$$\begin{array}{r} {}^{9}\cancel{10}.{}^{1}00 \\ -\ 1.80 \\ \hline £\ 8.20 \end{array}$$

$$\begin{array}{r} 8.20 \\ -\ 5.20 \\ \hline £\ 3.00 \end{array}$$

£3 ÷ 2 = £1.50

Spent

£1.30 × 4
↓×100
130p × 4

$$\begin{array}{r} {}^{1}130 \\ \times\ 4 \\ \hline 520\text{p} \end{array}$$

£5.20

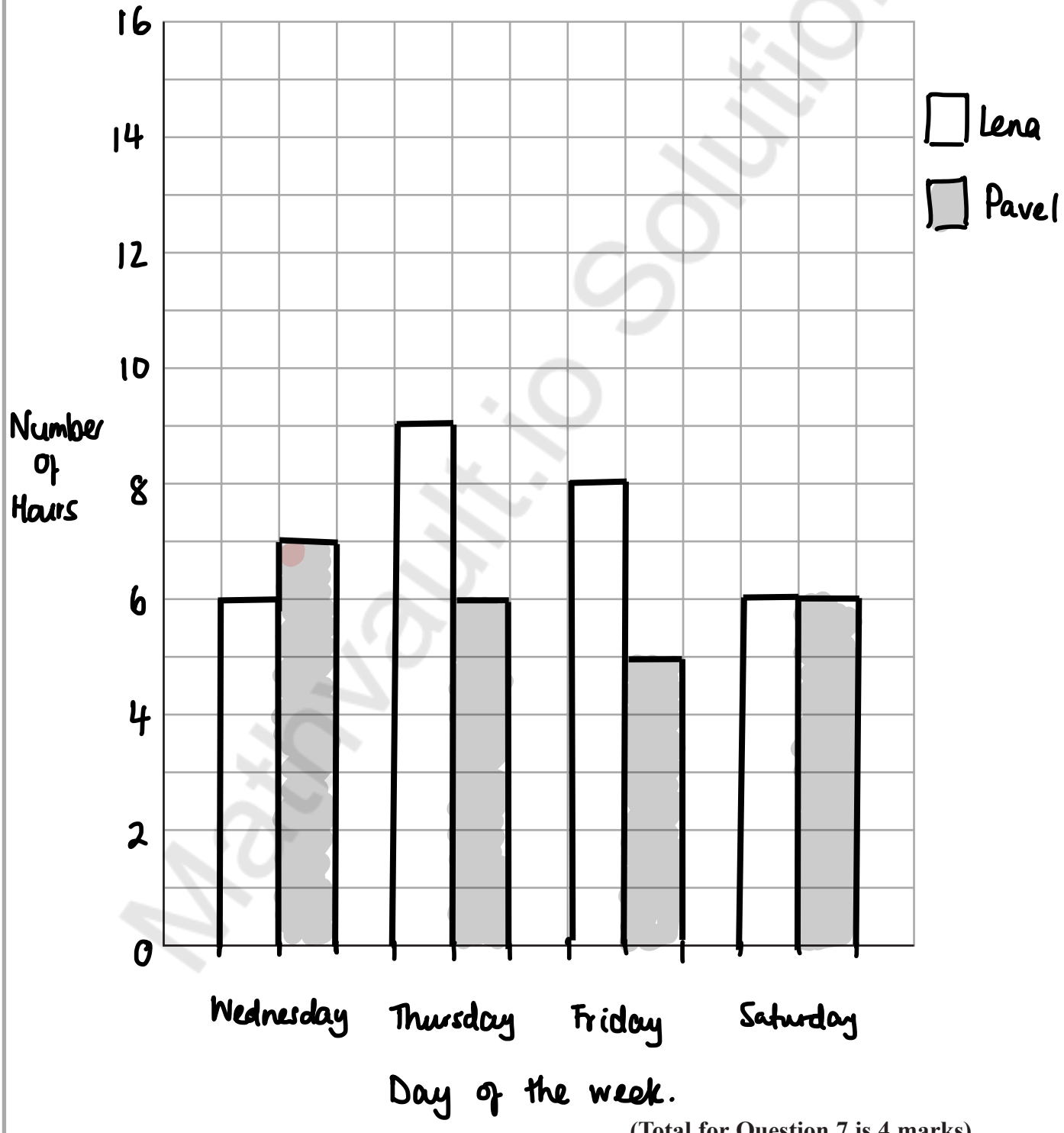
£ 1.50

(Total for Question 6 is 4 marks)

7 The table shows the number of hours that Lena and Pavel worked on each of four days last week.

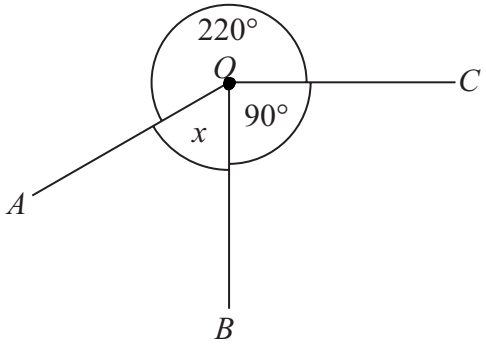
	Wednesday	Thursday	Friday	Saturday
Lena	6	9	8	6
Pavel	7	6	5	6

On the grid, draw a suitable diagram or chart for this information.



(Total for Question 7 is 4 marks)

8 OA, OB and OC are three straight lines.



(i) Work out the size of the angle marked x.

$360 - 310 = 50$

$x = 50°$

50 °

(2)

(ii) Give a reason for your answer.

Angles around a point sum to 360°

(1)

(Total for Question 8 is 3 marks)

9 Here is a number machine.

(a) Work out the output when the input is 13

13 × 2 = 26

26 − 10 = 16

16

(1)

(b) Work out the input when the output is 28

28 + 10 = 38

38 ÷ 2 = 19

19

(2)

(c) Show that there is a number for which the output is the same as the input.

10 × 2 = 20

20 − 10 = 10

(2)

(Total for Question 9 is 5 marks)

10 There are 24 cows and 36 sheep on a farm.

Write as a ratio the number of cows to the number of sheep.
Give your ratio in its simplest form.

C : S

24 : 36 (÷12)

2 : 3 (÷12)

2:3

(Total for Question 10 is 2 marks)

11 (a) Work out $-12 \div -4$

− ÷ − = +

12 ÷ 4 = 3

3

(1)

(b) Find the value of 2^5

2 × 2 × 2 × 2 × 2

4, 8, 16, 32

32

(1)

(c) Write **one** pair of brackets in this calculation so that the answer is correct.

$30 \div 3 + 2 - 4 = 2$

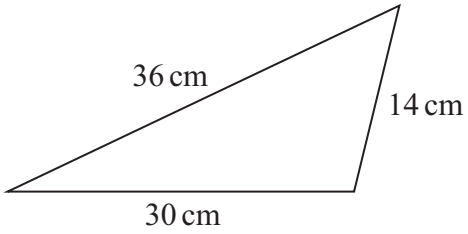
30 ÷ 5 − 4

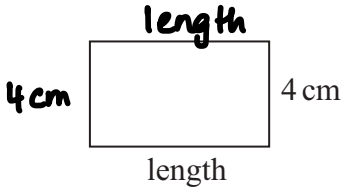
6 − 4 = 2

(1)

(Total for Question 11 is 3 marks)

12 The diagram shows a triangle and a rectangle.





The perimeter of the rectangle is a quarter of the perimeter of the triangle.

Work out the length of the rectangle.

Perimeter = add all sides

Perimeter triangle = 36 + 30 + 14 = 80cm

Perimeter rectangle = $\frac{1}{4}$ of 80cm

= 80 ÷ 4

= 20cm

= 4 + 4 + l + l = 20

8 + 2l = 20

−8 −8

2l = 12

÷2 ÷2

l = 6

.....6..... cm

(Total for Question 12 is 4 marks)

13 There are only £10 notes and £20 notes in a wallet.

Ali takes at random a note from the wallet.

(a) Write down the probability that Ali takes a note with a value of more than £5

£10 > £5

£20 > £5

1

(1)

There are only 1p coins and 2p coins in a bag.
The total value of the coins in the bag is 40p

The total value of the 1p coins is the same as the total value of the 2p coins.

Simon takes at random a coin from the bag.

(b) Find the probability that Simon takes a 1p coin.

1p 2p

2 : 1 } 3 parts

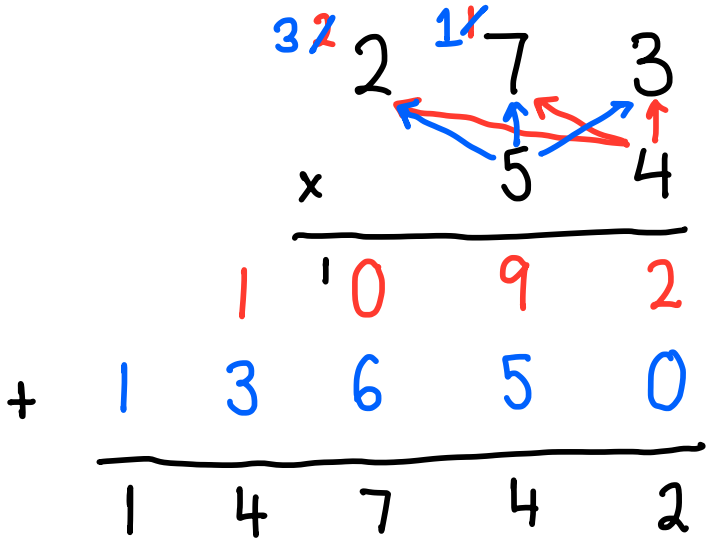
$P(1p) = \frac{2}{3}$

$\frac{2}{3}$

(2)

(Total for Question 13 is 3 marks)

14 Work out 273×54



14,742

(Total for Question 14 is 3 marks)

15 Tessa recorded the times that 15 adults took to complete a run.
She showed her results in a stem and leaf diagram.

4	~~5 8~~
5	~~2 7 8~~
6	~~1 2~~ 4 ~~5 7 7~~
7	~~2 6 7~~
8	~~1~~

Key:

4 | 5 represents 45 minutes

(a) Find the median.

6 | 4 = 64

64 minutes

(1)

(b) Find the range.

largest - smallest

81 - 45 = 36

36 minutes

(2)

Tessa also recorded the times that 15 children took to complete the run.

For the children, the median was 75 minutes.

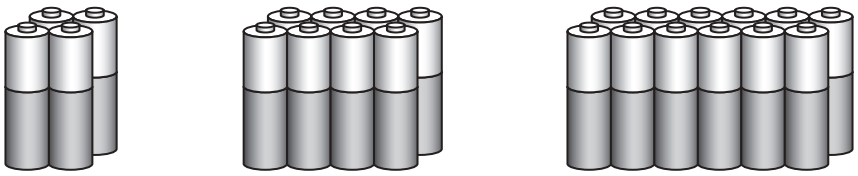
(c) Compare the times that the adults took with the times that the children took.

Adults were faster as the median is lower.

(1)

(Total for Question 15 is 4 marks)

16 Batteries are sold in packs of 4, in packs of 8 and in packs of 12



£1.80 £3.20 £6.00

A pack of 4 batteries costs £1.80
A pack of 8 batteries costs £3.20
A pack of 12 batteries costs £6.00

Which pack gives the best value for money?
You must show how you get your answer.

Pack of 4

£1.80 ÷ 4 = £0.45 per battery

$$4\overline{)1.^{1}8^{2}0}\quad 0.45$$

Pack of 8

£3.20 ÷ 8 = £0.40 per battery

$$8\overline{)3.^{3}20}\quad 0.40$$

Pack of 8

Pack of 12

£6.00 ÷ 12 = £0.50 per battery

$$12\overline{)6.^{6}00}\quad 0.50$$

(Total for Question 16 is 3 marks)

17 Solve $2(4x - 5) = 18$

$8x - 10 = 18$

$+10 \quad +10$

$8x = 28$

$\div 8 \qquad \div 8$

$x = \frac{28}{8} \begin{matrix} \div 4 \\ \div 4 \end{matrix} = \frac{7}{2} = 3.5$

$x =$ 3.5

(Total for Question 17 is 3 marks)

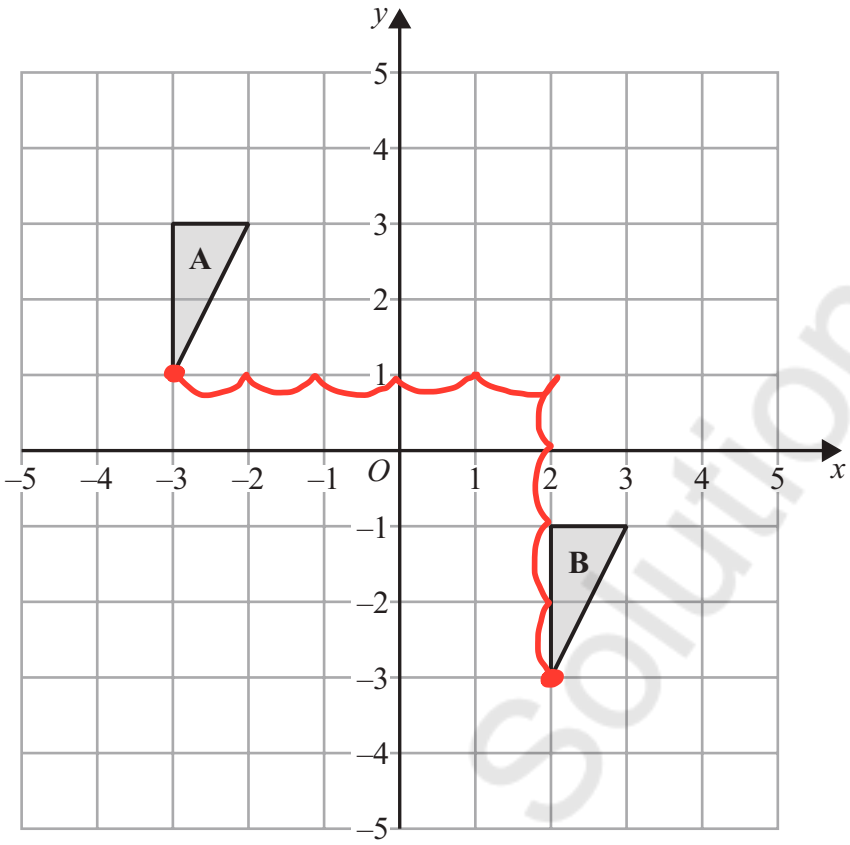
18 Write down the value of 10^0

$x^0 = 1$

1

(Total for Question 18 is 1 mark)

19



Reflection X
Rotation X
Enlargement X
Translation ✓

$\begin{pmatrix} 5 \\ -4 \end{pmatrix}$

Describe fully the **single** transformation that maps triangle **A** onto triangle **B**.

Translation by vector $\begin{pmatrix} 5 \\ -4 \end{pmatrix}$

(Total for Question 19 is 2 marks)

20 Here are the first four terms of an arithmetic sequence.

4n: 4 (−3) 8 (−3) 12 (−3) 16 (−3)

seq: 1 (+4) 5 (+4) 9 (+4) 13

Find an expression, in terms of n, for the nth term of this sequence.

$4n - 3$

↑ position

$4n - 3$

(Total for Question 20 is 2 marks)

21 (a) Work out $3\frac{4}{5} - 1\frac{2}{3}$

$3 - 1 = 2$

$\frac{4^{\times 3}}{5_{\times 3}} - \frac{2^{\times 5}}{3_{\times 5}}$

$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$

$2\frac{2}{15}$

$2\frac{2}{15}$

(2)

Kevin was asked to work out $2\frac{1}{3} \times \frac{5}{8}$

Here is his working and his answer.

$2\frac{1}{3} \times \frac{5}{8} = \frac{7}{3} \times \frac{5}{8}$ ✓ ✓

$= \frac{35}{24}$ ✓

$= 1\frac{9}{24}$ ✓ $35 - 24 = 11$

Kevin's answer is wrong.

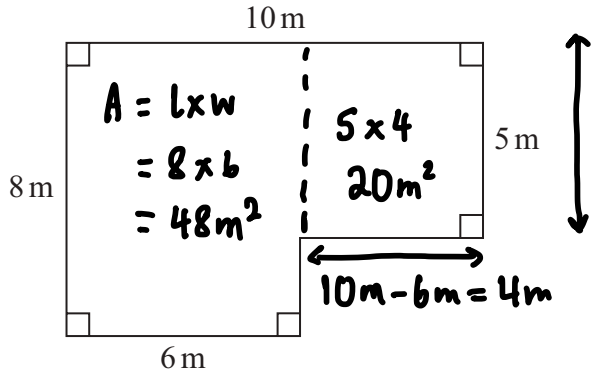
(b) What mistake has Kevin made?

The numerator should be 11 not 9.

(1)

(Total for Question 21 is 3 marks)

22 The diagram shows a plan of a floor.



Petra is going to cover the floor with paint.

Petra has 3 tins of paint.
There are 2.5 litres of paint in each tin.

Petra thinks 1 litre of paint will cover $10\,m^2$ of floor.

(a) Assuming Petra is correct, does she have enough paint to cover the floor?
You must show all your working.

Total Area = $48\,m^2 + 20\,m^2 = 68\,m^2$

Total litres = $3 \times 2.5 = 7.5\,L$

$7.5\,L \times 10\,m^2 = 75\,m^2$

$75\,m^2 > 68\,m^2$ Yes, she has enough.

(4)

Actually, 1 litre of paint will cover 11 m^2 of floor.

10 > 11

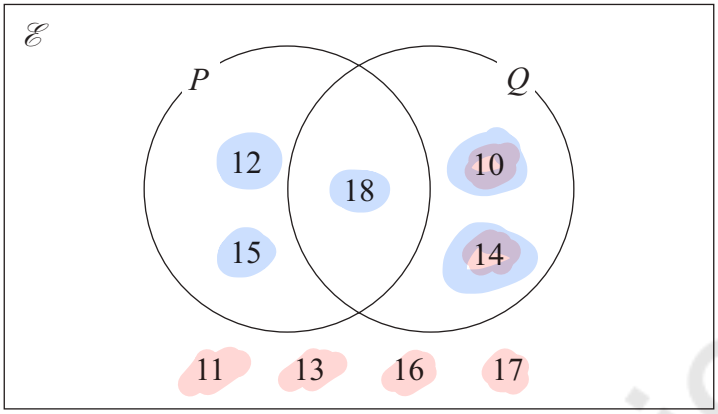
(b) Does this affect your answer to part (a)?
You must give a reason for your answer.

No, she will still have enough paint.

(1)

(Total for Question 22 is 5 marks)

23 Here is a Venn diagram.



(a) Write down the numbers that are in set P'

not in P

10, 14, 11, 13, 16, 17

(1)

A number is chosen at random from the universal set, $\mathscr{E}$

(b) Find the probability that this number is in the set $P \cup Q$

P or Q

$P(P \cup Q) = \frac{5}{9}$

$\frac{5}{9}$

(2)

(Total for Question 23 is 3 marks)

24 Sophie drives a distance of 513 kilometres on a motorway in France.
She pays 0.81 euros for every 10 kilometres she drives.

(a) Work out an estimate for the total amount that Sophie pays.

513 km ≈ 500 km

0.81 euros ≈ 0.8 euros

500 km ÷ 10 km = 50

50 × 0.8

↓ ×10

50 × 8 = 400 ÷10→ 40

40 euros

(3)

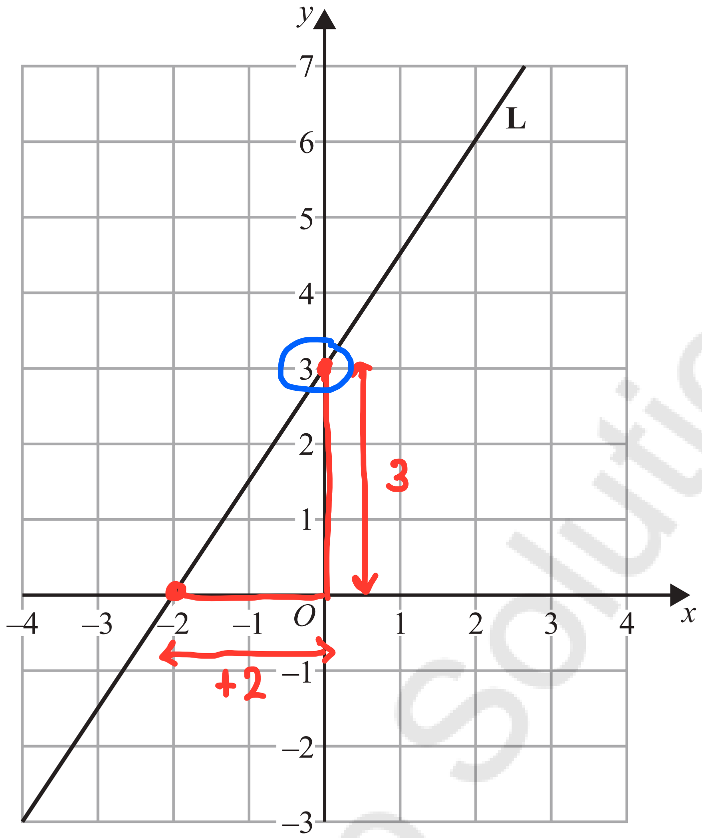
(b) Is your answer to part (a) an underestimate or an overestimate?
Give a reason for your answer.

Underestimate, rounded down the distance and the cost.

(1)

(Total for Question 24 is 4 marks)

25 Here is a straight line **L** drawn on a grid.



(a) Find an equation for **L**.

$y = mx + c$

gradient ↑   ↖ y-intercept ↘ $c = +3$

gradient ↓ $\frac{\text{change in } y}{\text{change in } x} = \frac{3}{2} = m$

$y = \frac{3}{2}x + 3$
....

(3)

M is a different straight line with equation $y = 5x$ ← gradient = 5 , y-intercept = 0

(b) Write down the equation of a straight line parallel to **M**.

↓ same gradient

$y = 5x + 3$
....

(1)

(Total for Question 25 is 4 marks)

26 Kasim has some small jars, some medium jars and some large jars.
He has a total of 400 jars.

$\frac{3}{8}$ of the 400 jars are empty.

For the empty jars,

number of small jars : number of medium jars = 3 : 4
number of medium jars : number of large jars = 1 : 2

Work out the percentage of Kasim's jars that are empty small jars.

Empty

$\frac{3}{8}$ of 400

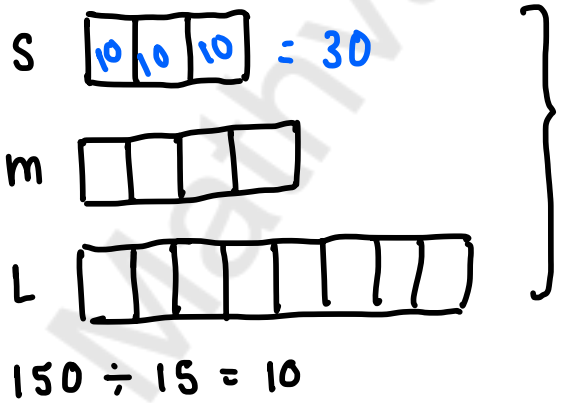
400 ÷ 8 = 50

50 × 3 = 150 empty jars

S : m m : L
3 : 4 1 : 2
×4 ×4

3 : 4 4 : 8

S : m : L
3 : 4 : 8



150 ÷ 15 = 10

%
÷4
30/400 = 7.5/100 = 7.5%
÷4

$$4\overline{)30^{3}0^{2}0}\quad 07.5$$

7.5 %

(Total for Question 26 is 5 marks)

27 In a sale, normal prices are reduced by 30%

The sale price of a TV is £280

Work out the normal price of the TV.

100% - 30% = 70% sale price

÷7 (70% = £280) ÷7

(10% = £40)

×10 (100% = £400) ×10

£ 400

(Total for Question 27 is 2 marks)

28 Solve $x + 11 \leqslant 5 - \frac{1}{2}x$

×2 ×2

$2(x+11) \leq 2(5 - \frac{1}{2}x)$

$2x + 22 \leq 10 - 1x$

$+1x \quad +1x$

$3x + 22 \leq 10$

$-22 \quad -22$

$3x \leq -12$

÷3 ÷3

$x \leq -4$

$x \leq -4$

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

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