1

Ali puts these five numbers in their correct places on a number line.

511   499   502   555   455

Write the number **closest** to 500

1 mark

Write the number **furthest** from 500

1 mark

2

Write the three missing digits to make this **addition** correct.

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

2 marks

3

A	B	C
£135,300	£119,125	£130,500

D	E
£131,500	£91,500

Put these houses in order of price starting with the **lowest price**.

One has been done for you.

_____   **B**   _____   _____   _____
lowest

1 mark

4

This table shows the number of people living in various towns in England.

Town	Population
Bedford	82,448
Carlton	48,493
Dover	34,087
Formby	24,478
Telford	166,640

What is the **total** of the numbers of people living in Formby and in Telford?

[ ]

1 mark

What is the **difference** between the numbers of people living in Bedford and in Dover?

[ ]

1 mark

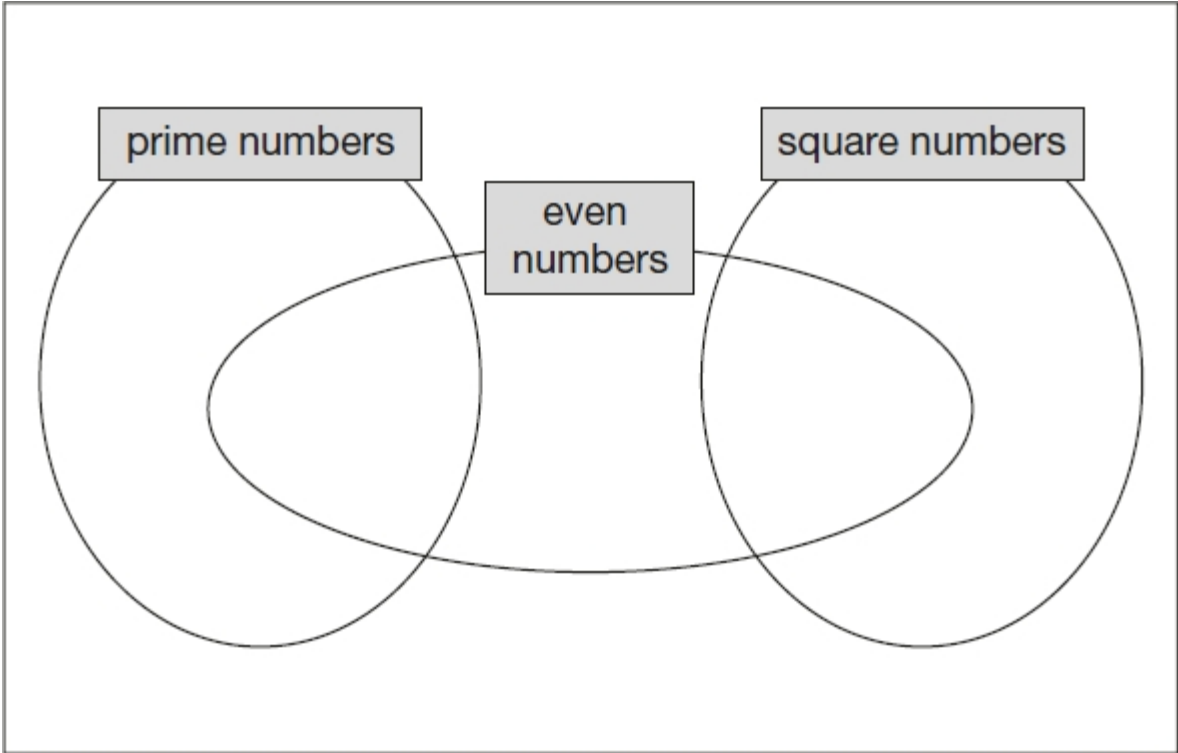**5** Write the two missing values to make these equivalent fractions correct.

$$\frac{\Box}{3} = \frac{8}{12} = \frac{4}{\Box}$$

2 marks

6 Write each number in its correct place on the diagram.

16   17   18   19

| prime numbers | even | square numbers |
| | numbers | |

2 marks

7 Circle two numbers that add together to equal **0.25**

0.05   0.23   0.2   0.5

1 mark

8 This thermometer shows temperatures in both °C and °F.

°C		°F
40 —	—	104
30 —	—	86
20 —	—	68
10 —	—	50
0 —	—	32
−10 —	—	14

Work out what **25°C** is in °F.

Show your method

°F

2 marks

9 Write the number that is five less than **ten million**.

> [ ]

1 mark

Write the number that is one hundred thousand less than **six million**.

> [ ]

1 mark

10

6 pencils cost **£1.68**

3 pencils and 1 rubber cost **£1.09**

What is the cost of **1 rubber**?

Show your method

2 marks

11 Write **all** the common multiples of 3 and 8 that are **less than 50**

_____

1 mark

12 A stack of 20 identical boxes is 140 cm tall.

140 cm

Not actual size
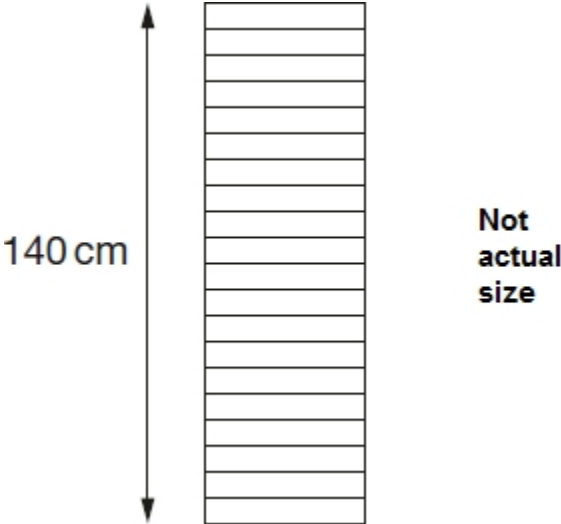
Stefan takes **three** boxes off the top.

How tall is the stack now?

Show your method

cm

2 marks

13

$n = 22$

What is $2n + 9$?

1 mark

$2q + 4 = 100$

Work out the value of q.

$q =$

1 mark

14 A packet contains 1.5 kg of oats.

Every day Maria uses 50 g of oats to make porridge.

How many days does the packet of oats last?

Show your method

days

2 marks

15

Miss Mills is making jam to sell at the school fair.

Strawberries cost £7.50 per kg.

Sugar costs 79p per kg.

10 glass jars cost £6.90

She uses 12 kg of strawberries and 10 kg of sugar to make 20 jars full of jam.

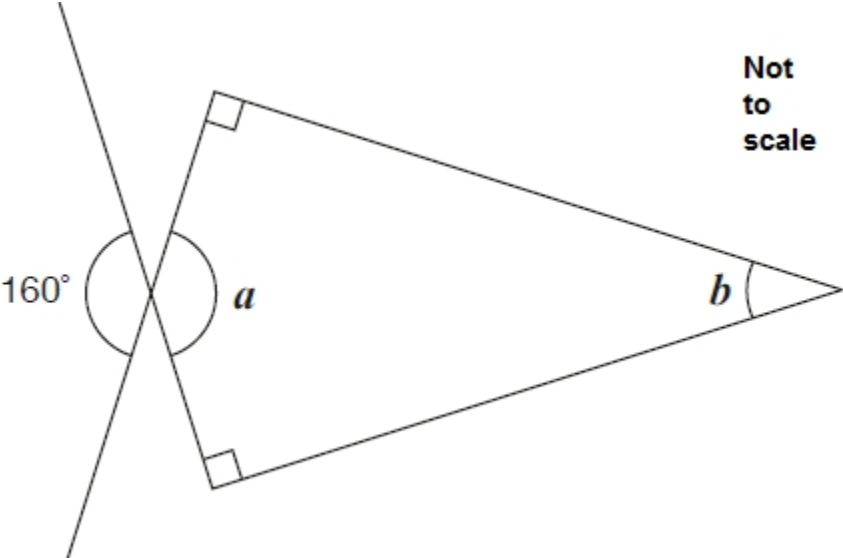Calculate the total cost to make 20 jars full of jam.

Show your method

£

3 marks

16 Calculate the size of angles a and b in this diagram.

160°

a

b

Not to scale

$a = $ [   ] °

1 mark

$b = $ [   ] °

1 mark

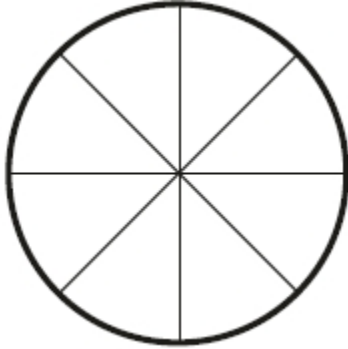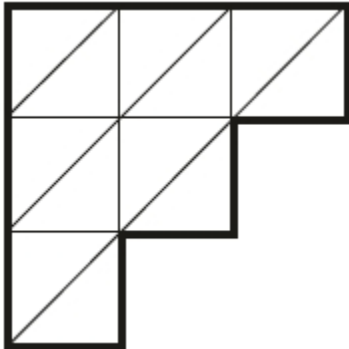**17** Write the missing number.

$70 \div$ [   ] $= 3.5$

1 mark

18

Each diagram below is divided into equal sections.
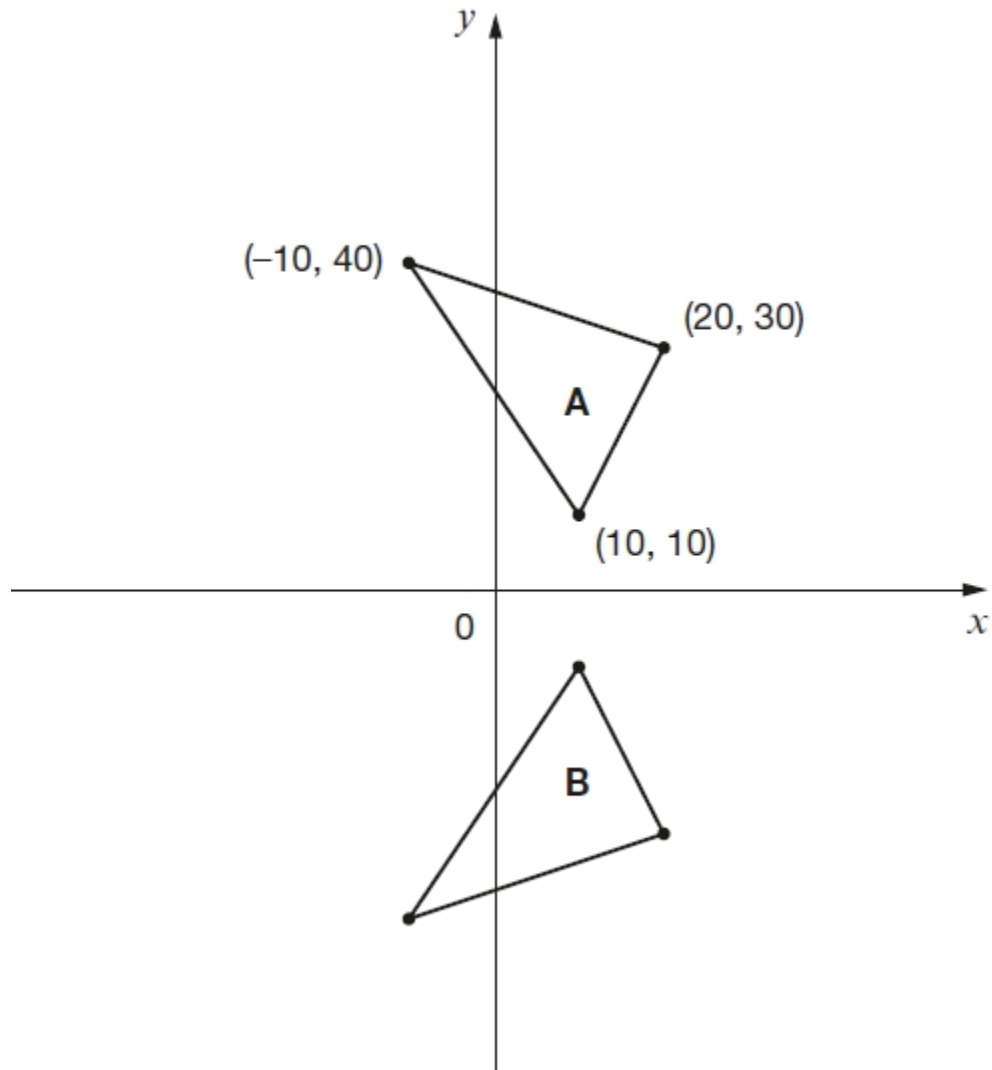
Shade three-quarters of each diagram.

2 marks

19

Here are two triangles drawn on coordinate axes.

Triangle B is a reflection of triangle A in the x-axis.

Two of the new vertices of triangle B are (10, −10) and (20, −30).

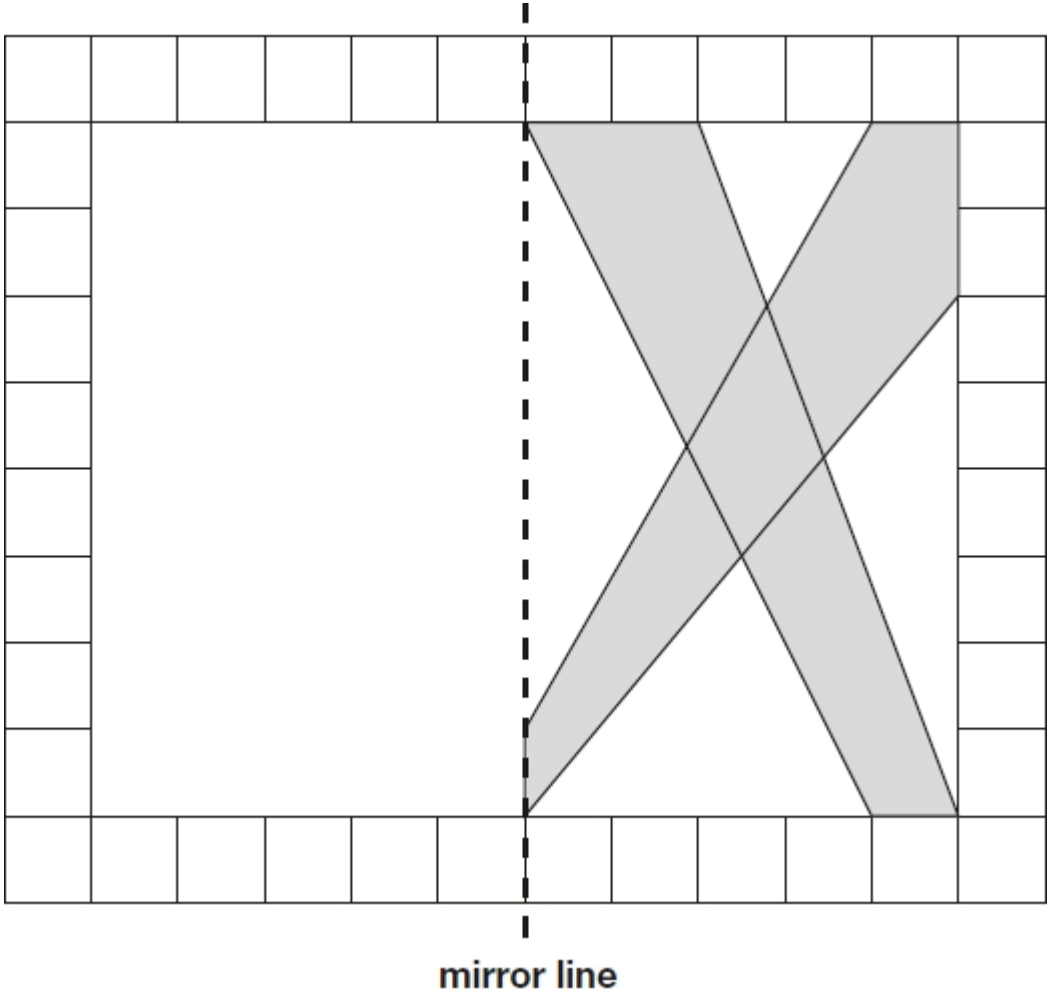What are the coordinates of the **third** vertex of triangle B?

(,   )

1 mark

20

This diagram shows a shaded shape inside a border of squares.

Draw the reflection of the shape in the mirror line.

Use a ruler.

mirror line

1 mark

Mark schemes

1   (a)   499

                                                       1

   (b)   555

                                                       1

[2]

2   Award **TWO** marks for:

$$
\begin{array}{r}
1\ 5\ \boxed{1}\\
+\ 4\ \boxed{6}\ 4\\
\hline
\boxed{6}\ 1\ 5
\end{array}
$$

If the answer is incorrect, award **ONE** mark for two digits correct.

                                                Up to 2m

[2]

3   Award **ONE** mark for the correct answer as shown:

- **E**   _B_   **C**   **D**   **A**

         Accept:
- *£91,500*   _B_   *£130,500*   *£131,500*   *£135,300*

[1]

4   (a)   191,118

                                                       1

   (b)   48,361

                                                       1
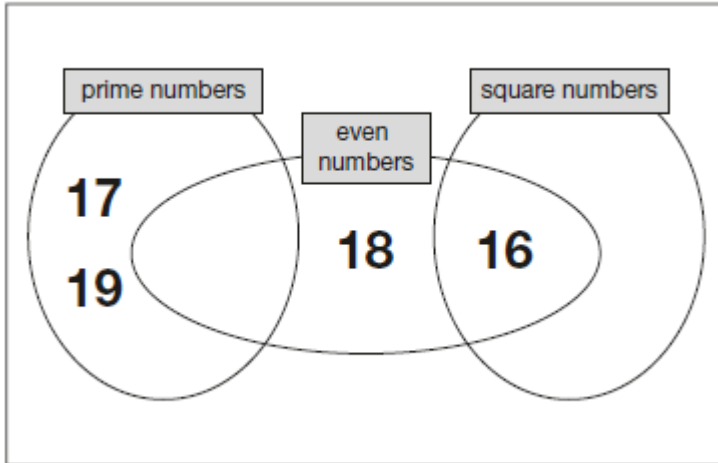
[2]

5

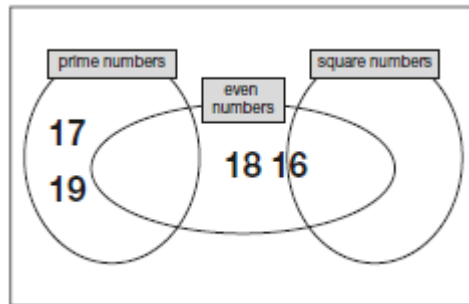$$\frac{\boxed{2}}{3} = \frac{8}{12} = \frac{4}{\boxed{6}}$$

[2]

6   Award **TWO** marks for all four numbers placed correctly as shown:
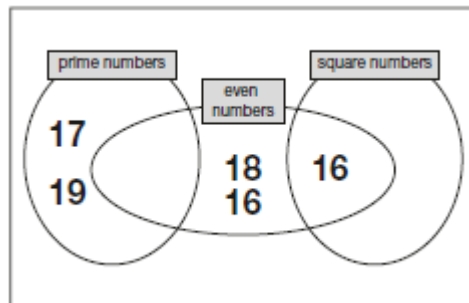

If the answer is incorrect, award **ONE** mark for three numbers placed correctly.

Accept alternative unambiguous indications, e.g. lines drawn from the numbers to the appropriate regions of the diagram.

***Do not** accept numbers written in more than one region, e.g.*

OR

Up to 2m

[2]

7 Numbers circled as shown:

(0.05) 0.23 (0.2) 0.5

Accept alternative unambiguous positive indications, e.g. numbers ticked or underlined.

[1]

8 Award **TWO** marks for the correct answer of 77°F.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 86 – 68 = 18
  18 ÷ 2 = 19
  9 + 68

OR

- 86 – 68 = 18
  18 ÷ 2 = 9
  86 – 9

OR

- 86 + 68 = 154
  154 ÷ 2

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

9 (a) 9,999,995

1

(b) 5,900,000

1

[2]

10 Award **TWO** marks for the correct answer of 25p.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 168 ÷ 2 = 84
  109 − 84

OR

- 168 ÷ 6 = 28
  3 × 28 = 84
  109 − 84

*Accept for **TWO** marks, an answer given in the acceptable notation.*

*Answer need not be obtained for the award of **ONE** mark.*

*Accept for **ONE** mark an answer of 0.25p **OR** £25p **OR** £25 as evidence of an appropriate method.*

Up to 2m

[2]

11 24 **AND** 48 only

Numbers may be given in either order.

[1]

12 Award **TWO** marks for the correct answer of 119.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 140 ÷ 20 = 7
  3 × 7 = 21
  140 − 21

OR

- 140 ÷ 20 = 7
  20 − 3 = 17
  17 × 7

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

13

(a) 53

1

(b) 48

1

[2]

14

Award **TWO** marks for the correct answer of 30.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 1.5 kg = 1,500 g
  1,500 ÷ 50

Answer need not be obtained for the award of ***ONE*** *mark.*

Units must be converted correctly for the award of ***ONE*** *mark.*

Up to 2m

[2]

15 Award **THREE** marks for the correct answer of £111.70.

If the answer is incorrect, award **TWO** marks for:

- sight of £90 **AND** £7.90 **AND** £13.80 as all multiplication steps completed correctly.

  *Accept for **TWO** marks, sight of 9,000p **AND** 790p **AND** 1,380p as all multiplication steps completed correctly.*

OR

evidence of an appropriate complete method with no more than one arithmetic error, e.g.

```
   7.50          79          6.90
×  12        ×   10       ×     2
  88.80          790        13.80
 (error)
```

88.80 + 7.90 + 13.80 = 110.50

Award **ONE** mark for evidence of an appropriate complete method.

*Answer need not be obtained for the award of **ONE** mark.*

A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified.

***TWO** marks will be awarded if an appropriate complete method with the misread number is followed through correctly.*

***ONE** mark will be awarded for:*

- *all multiplication steps completed correctly with the misread number.*

  OR

- *evidence of an appropriate complete method with the misread number followed through correctly with no more than one arithmetic error.*

Up to 3m

[3]

16 (a) 160

1

(b) 20

*If the answers to a and b are incorrect, award **ONE** mark if*
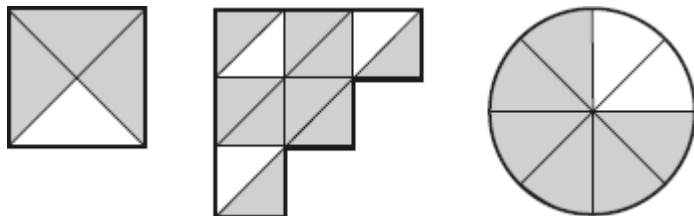*a + b = 180° unless b is between 33° and 37° inclusive, or 90°.*

1

[2]

17 20

[1]

18 Award **TWO** marks for all three diagrams completed to show three-quarters shaded, e.g.

If the answer is incorrect, award **ONE** mark for two diagrams correct.

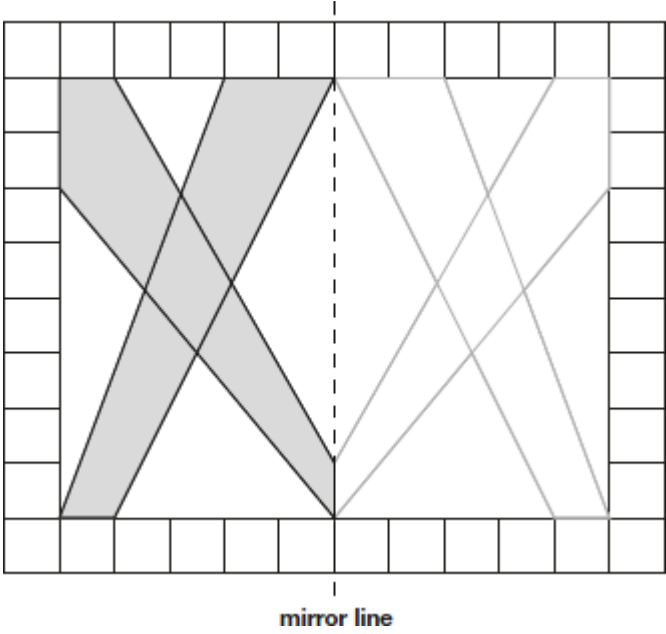*Accept alternative unambiguous indications of parts shaded.*
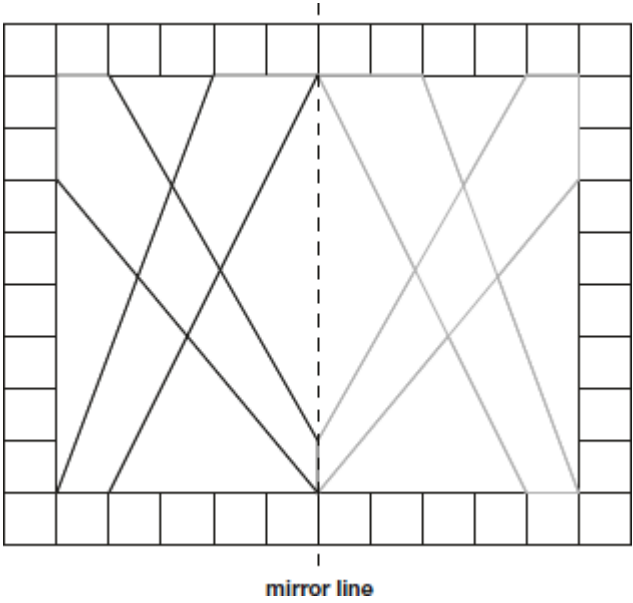
Up to 2m

[2]

19 (−10, −40)

[1]

20 Diagram completed correctly as shown:

mirror line

Accept inaccurate drawing, provided the intention is clear.

Diagram need not be shaded.

Diagram need not include edges drawn along the gridlines, e.g.

mirror line

[1]