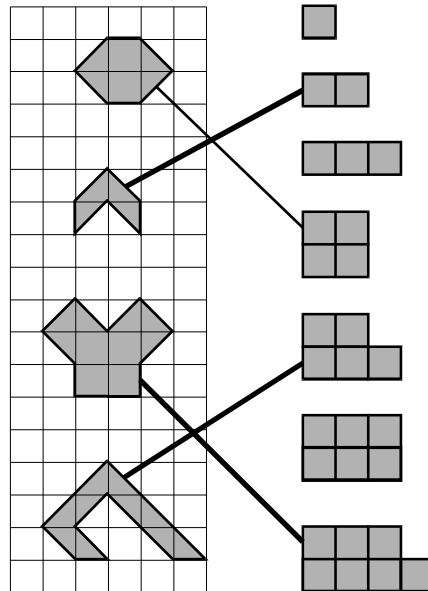# Area & Perimeter KS2 SATS Standard Worksheet Answers

1. Award **TWO** marks for the 3 shapes matched correctly as shown: Up to 2m

If the answer is incorrect, award **ONE** mark for any two shapes correctly matched.
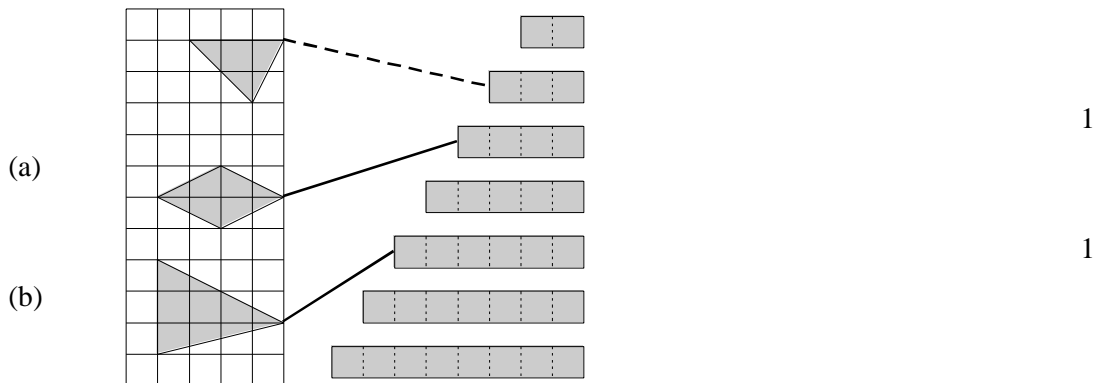
> *Lines need not touch shapes or area boxes exactly provided the intention is clear.*
>
> ***Do not*** *accept shapes on the left which have been matched to more than one area on the right.*

[2]

2. Lines drawn as shown.

> *Lines need not touch the shapes or boxes, provided the intention is clear.*

(a)

1

(b)

1

> ***No*** *mark is awarded in the case of **two** lines originating from one shape.*
>
> *If two lines are drawn to the same rectangle, and one is correct, award **ONE** mark.*

[2]

3. Draws one of these rectangles on the lines of the grid in either orientation:

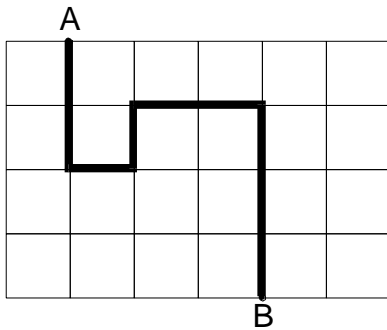8cm × 1cm or
7cm × 2cm or
6cm × 3cm or

5cm $\times$ 4cm

> *If the child draws more than one correct rectangle, award the mark. If the child draws correct **and** incorrect rectangles, do not award the mark.*

[1]

4. a   Rectangle – 14   1

   b   Triangle – 12   1

[2]

5.   Any line that partitions the grid into two blocks of 12 squares, eg: 1

> *Line must run from A to B. Line must be on dotted grid lines only.*
> ***Do not*** *accept. lines along the edge of the grid.*

6.   299

[1]

7. (a)   Any statement which indicates an understanding of area, eg: 1

- By counting the shaded triangles
- A's got more triangles than B
- The amount of triangles is more.
- A has more shapes than B.
- B has got less shade.

> ***Do not*** *accept statements which imply linear measurement, eg:*
> - ***Shape B is longer.***
> - ***B has a longer area.***
> - ***He used perimeter.***
> - ***A has more edges.***

(b)   Any shape which covers 6 triangles, different from the given shape of A.   1

> *The shape may be composed of part triangles provided the area is equivalent to 6 triangles.*
> *Accept shapes such as 6 triangles joined only by vertices, eg:*

> ***Do not*** *accept same shape as A drawn elsewhere on grid.*

8. A **and** D   1

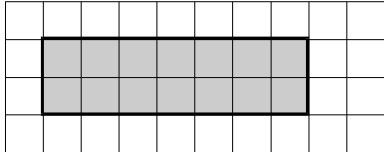> ***Both*** *letters must be correct for the award of the mark.*
>
> *Accept either order.*
>
> *Accept any other clear way of indicating the two correct shapes, such as circling.*

[1]

9. Any rectangle with an area of 14 squares, eg   1

> *Rectangle need not be shaded or coincident with the grid lines. Accept extensions to the grid to allow, for example, a 14 × 1 rectangle.*
>
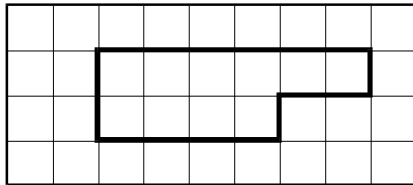> *Accept slight inaccuracies in drawing provided the intention is clear.*

[1]

10. (a) E   1

      (b) B   1

[2]

11. (a) Any shape with an area of 10 cm^2, eg
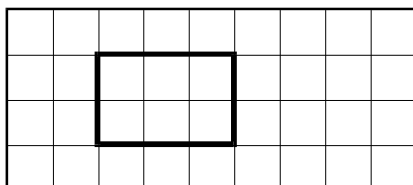

    1

> *The shape need not be aligned with the grid.*
>
> *Accept slight inaccuracies in drawing provided intention is clear.*

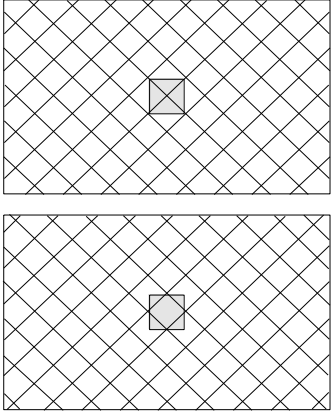   (b) Any rectangle with a perimeter of 10 cm, eg

    1

> *The rectangle need not be aligned with the grid.*
>
> *Accept slight inaccuracies in drawing provided the intention is clear.*

[2]

12. (a) 42   1m

(b) 11   1m

[2]

13. (a) 8   1

(b) Square as shown, anywhere on the diagram, eg: 1

The square need not be shaded.

Accept slight errors in drawing provided the intention is clear.

If the square is not drawn using the grid vertices, it must have sides in the range 1.3 to 1.5cm, inclusive.

[2]

14. 12   1

[1]

15. 49   1m

[1]

16. (a) A mathematical criterion such as: 1

- "They are symmetrical."
- "Each has three squares across."
- "Both have the same perimeter."
- "They have 4 joined-on lines."
- "They have the same area."

   Do not accept *criteria which are implicit in the fact that the shapes are made from cm squares, eg:*

   - *"They have straight edges."*

(b) E   1

[2]

17. (a) A number in the range 3.5 to 5, inclusive.   1

(b) Correct addition of 59.5 and 80.3 to make 139.8   1

   OR

   Estimation such as $60 + 81 < 145$.   1

   No mark *is awarded for drawing a conclusion. The mark is awarded for* ***correct calculation*** *even if conclusion is wrong.*

[2]

18. Award **TWO** marks for the correct answer of 82   Up to 2m

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

    $(4 \times 10) + (7 \times 6)$
    OR
    $(10 \times 10) - (3 \times 6)$

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

    [2]

19. 54   1

    Accept figures written on the diagram, provided a total is given.

    [1]

20. Award **TWO** marks for a correct answer of 80   Up to 2

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

    $(13 + 12 - 5) \times 4$

    Calculation need not be performed for the award of the mark.

    [2]

21. Award **TWO** marks for the correct answer of 64   Up to 2 marks

    If the answer is incorrect, award **ONE** mark for evidence
    of appropriate working, eg   U1

    $48 \div 3 = 16$

    $16 \div 4 =$ wrong answer
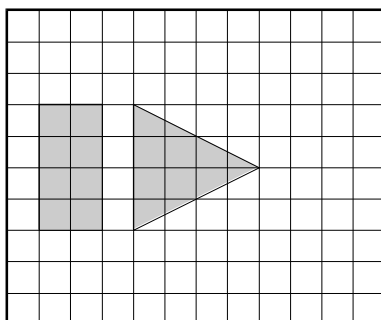
    *Calculation must be performed for the award of **ONE** mark.*

    [2]

22. 800   1

    [1]

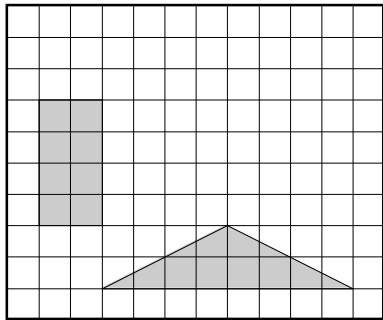23. Any triangle with an area of 8cm^2, eg   1

    Drawings must be accurate to within 2mm of appropriate grid intersections.
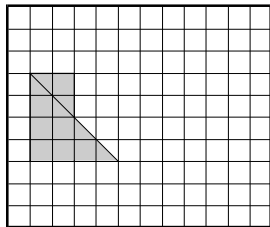
    The triangle need not be shaded and need not have vertices at grid junctions.

*Do not penalise drawings done without a ruler, provided
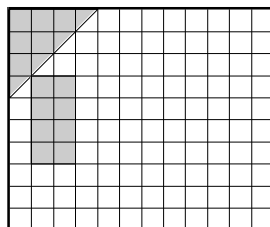the intention is clear.*

OR

*Accept drawings that overlap the given rectangle or use the
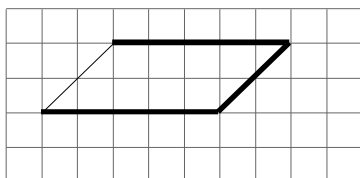edge of the grid, eg*

OR

[1]

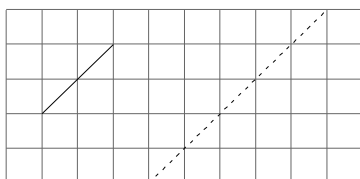**24.** Diagram completed as shown below: 1m

*Accept slight inaccuracies in drawing provided the intention
is clear.*

The shape need not be shaded.

OR

any parallelogram using the given line, and part of the broken line shown below.

[1]

25. (a)   84   1

(b)   Award **TWO** marks for the correct answer of 5.   up to 2

If the answer is incorrect, award **ONE** mark for an appropriate calculation
such as:

- $(34 - 6 - 8) \div 4$ = incorrect answer.

[3]

26.   Award **TWO** marks for the correct answer of 26.8cm   up to 2

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

$85 \div 2 - 15.7$

OR

$85 - (15.7 \times 2)$ = wrong answer

wrong answer $\div 2$

OR

$85 - (15.7 \times 2) = 53.6$

*Award **ONE** mark for an answer of 53.6 **OR** for 53.6 shown
with no evidence of an incorrect method.*

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

[2]