

Year 6 Week 4 Answers

Monday

| Event and Category | Length | Round to the nearest whole number | Round to the nearest tenth | Round to the nearest hundredth | Round to the nearest thousandth |
|----------------------|----------|-----------------------------------|----------------------------|--------------------------------|---------------------------------|
| Long jump: Under 11 | 4.2595m | 4m | 4.3m | 4.26m | 4.260m |
| Long jump: Under 16 | 3.9709m | 4m | 4.0m | 3.97m | 3.971m |
| High jump: Under 11 | 0.9376m | 1m | 0.9m | 0.94m | 0.938m |
| High jump: Under 16 | 0.8696m | 1m | 0.9m | 0.87m | 0.870m |
| Pole Vault: Under 11 | 2.1147m | 2m | 2.1m | 2.11m | 2.115m |
| Pole Vault: Under 16 | 3.7318m | 4m | 3.7m | 3.73m | 3.732m |
| Javelin: Under 11 | 50.0741m | 50m | 50.1m | 50.07m | 50.074m |
| Javelin: Under 16 | 39.2308m | 39m | 39.2m | 39.24m | 39.231m |
| Shot put: Under 11 | 8.2699m | 8m | 8.3m | 8.27m | 8.270m |
| Shot put: Under 11 | 12.3515m | 12m | 12.4m | 12.35m | 12.352m |

Extension

Challenge A

14.57

Challenge B

1.39

Challenge A

0.598

Challenge B

1.827

Tuesday

A. Complete the table.

| | | |
|--------|----------------|-----|
| 1^2 | 1×1 | 1 |
| 2^2 | 2×2 | 4 |
| 3^2 | 3×3 | 9 |
| 4^2 | 4×4 | 16 |
| 5^2 | 5×5 | 25 |
| 6^2 | 6×6 | 36 |
| 7^2 | 7×7 | 49 |
| 8^2 | 8×8 | 64 |
| 9^2 | 9×9 | 81 |
| 10^2 | 10×10 | 100 |

B. Complete the table.

| | | |
|--------|--------------------------|------|
| 1^3 | $1 \times 1 \times 1$ | 1 |
| 2^3 | $2 \times 2 \times 2$ | 8 |
| 3^3 | $3 \times 3 \times 3$ | 27 |
| 4^3 | $4 \times 4 \times 4$ | 64 |
| 5^3 | $5 \times 5 \times 5$ | 125 |
| 6^3 | $6 \times 6 \times 6$ | 216 |
| 7^3 | $7 \times 7 \times 7$ | 343 |
| 8^3 | $8 \times 8 \times 8$ | 512 |
| 9^3 | $9 \times 9 \times 9$ | 729 |
| 10^3 | $10 \times 10 \times 10$ | 1000 |

C. Calculate the missing numbers.

| | | |
|-----------------------|------------------------|--------------------------|
| a) $7^2 + 4^3 = 113$ | b) $8^2 + 10^2 = 164$ | c) $5^3 - 5^2 = 100$ |
| d) $5^2 + 8^2 = 89$ | e) $9^2 - 8^2 = 17$ | f) $3^2 \times 2^3 = 72$ |
| g) $3^2 + 4^2 = 5^2$ | h) $6^3 \div 2^2 = 54$ | i) $13^2 = 169$ |
| j) $10^3 - 2^2 = 996$ | k) $100^2 = 10\ 000$ | l) $12^2 = 144$ |

Write down the *square root* for each of these numbers:

- a. $16 = 4$ b. $25 = 5$ c. $49 = 7$ d. $1 = 1$
 e. $81 = 9$ f. $64 = 8$ g. $100 = 10$ h. $144 = 12$
 i. $169 = 13$

Extension

Answer the following sums:

- a. $2^2 + 5^3 = 129$ b. $5^2 - \sqrt{4} = 23$ c. $\sqrt{100} - 1 = 9$ d. $\sqrt[3]{64} + 45 = 49$
 e. $\sqrt{100} - \sqrt{4} = 8$ f. $9^2 - \sqrt{121} = 70$ g. $\sqrt{196} \div 2 = 7$

Wednesday

Area using unit squares

1 a Area = 4 whole squares
 = 4 units²

b Area = 6 whole squares
 = 6 mm²

c Area = 2 whole + 2 half squares
 = 2 m² + 2 × $\frac{1}{2}$ m²
 = 3 m²

d Area = 4 whole + 4 half squares
 = 4 units² + 4 × $\frac{1}{2}$ units²
 = 6 units²

e Area = 2 whole + 4 quarter squares
 = 2 units² + 4 × $\frac{1}{4}$ units²
 = 3 units²

f Area = 4 whole + 2 quarter squares
 = 4 cm² + 2 × $\frac{1}{4}$ cm²
 = 4.5 cm²

g Area = 3 whole + 4 half + 4 quarter squares
 = 3 units² + 4 × $\frac{1}{2}$ units² + 4 × $\frac{1}{4}$ units²
 = 6 units²

Area using unit squares

- 2 a Area = 9 cm² b Area = 12 units² c Area = 6 m²
 d Area = 4.5 mm² e Area = 5 units² f Area = 8 mm²
 g Area = 12.5 km² h Area = 14 cm²

Perimeter using unit squares

1 a Perimeter = $2 + 2 + 2 + 2$ units
= 8 units

b Perimeter = $1 + 3 + 1 + 3$ units
= 8 units

Perimeter using unit squares

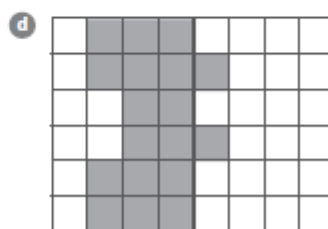
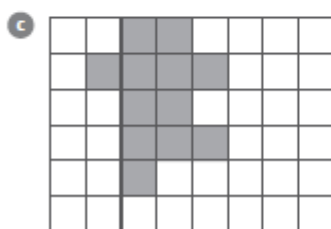
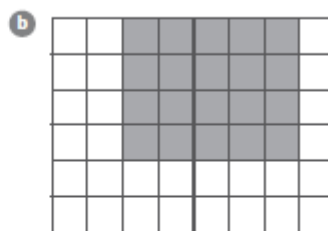
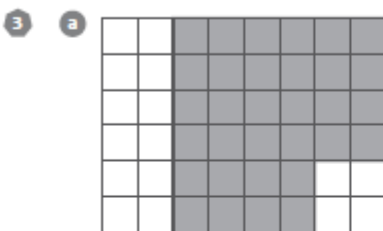
1 c Perimeter = $2 + 1 + 1 + 1 + 1 + 2$ units
= 8 units

- 2 a $P = 10$ units b $P = 12$ units c $P = 14$ units d $P = 13$ units

- 3 Even though the shapes all have the same area, they do not all have the same perimeter lengths. This shows that the shapes with the same area will not necessarily have the same perimeter. So the perimeter is not related to the area of the shape.

Extension

Area using unit squares



Thursday

Area of composite shapes

1 a Area ① = $4 \text{ mm} \times 4 \text{ mm}$ Area ② = $2 \text{ mm} \times 2 \text{ mm}$
 $= 16 \text{ mm}^2$ $= 4 \text{ mm}^2$

\therefore Composite area = $16 + 4 \text{ mm}^2$
 $= 20 \text{ mm}^2$

b Area ① = $0.5 \times 6 \times 8 \text{ m}^2$ Area ② = $11 \times 5 \text{ m}^2$
 $= 24 \text{ m}^2$ $= 55 \text{ m}^2$

\therefore Composite area = $24 + 55 \text{ m}^2$
 $= 79 \text{ m}^2$

c Area ① = $6.5 \times 2 \text{ cm}^2$ Area ② = $0.5 \times 4 \times 2 \text{ cm}^2$
 $= 13 \text{ cm}^2$ $= 4 \text{ cm}^2$

\therefore Composite area = $13 - 4 \text{ cm}^2$
 $= 9 \text{ cm}^2$

d Area ① = $0.5 \times 8 \times 5 \text{ m}^2$ Area ② = $2 \times 2 \text{ m}^2$
 $= 20 \text{ m}^2$ $= 4 \text{ m}^2$

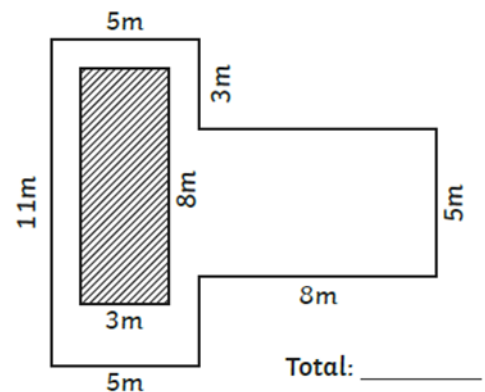
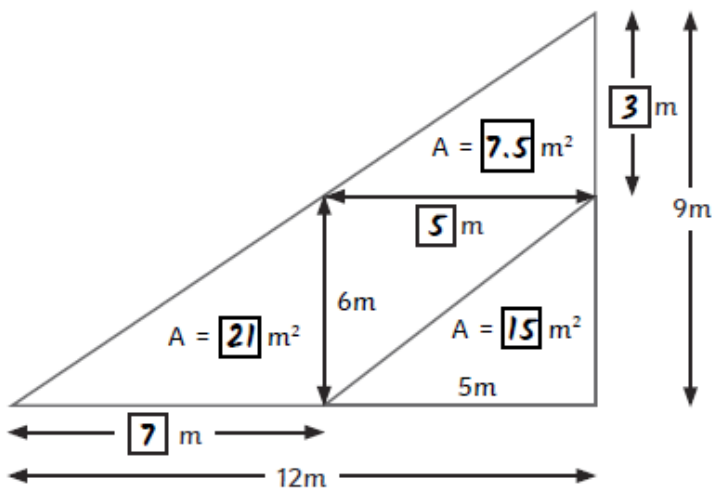
\therefore Composite area = $20 - 4 \text{ m}^2$
 $= 16 \text{ m}^2$

2 a Area = Area of square + area of triangle
 $= 13 \text{ cm} \times 13 \text{ cm} + (12 \text{ cm} \times 5 \text{ cm}) \div 2$
 $= 169 \text{ cm}^2 + 30 \text{ cm}^2$
 $= 199 \text{ cm}^2$

b $300 \text{ cm} = 3 \text{ m}$ and $200 \text{ cm} = 2 \text{ m}$
 Area = Area of parallelogram + area of triangle
 $= 4.5 \text{ m} \times 3 \text{ m} + 4.5 \text{ m} \times 2 \text{ m}$
 $= 13.5 \text{ m}^2 + 9 \text{ m}^2$
 $= 22.5 \text{ m}^2$

c Area = Area of large square - area of small square
 $= 6 \text{ mm} \times 6 \text{ mm} - 2 \text{ mm} \times 2 \text{ mm}$
 $= 36 \text{ mm}^2 - 4 \text{ mm}^2$
 $= 32 \text{ mm}^2$

Extension



Total: _____

Total: **71m²**

Cost of tiles
 £159.75