Name:

Exam Style Questions

Surface Area: Prisms

Corbettmaths

Equipment needed: Calculator, Pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

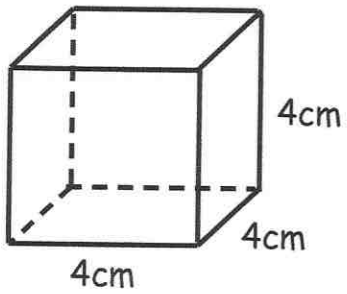
Video Tutorial

www.corbettmaths.com/contents

Video 312

Answers and Video Solutions

1. Shown below is a cube with a side length of 4cm.



Work out the total surface area of the cube.
Include suitable units.

$4 \times 4 = 16$

$16 \times 6 = 96 \text{ cm}^2$

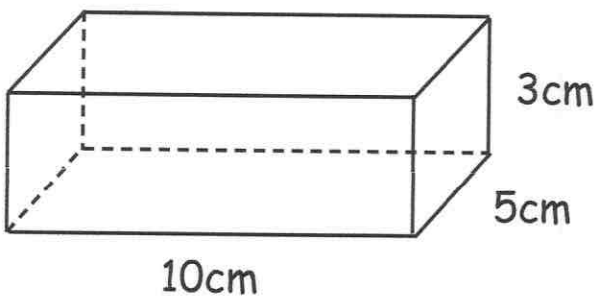
96 cm^2

.....

(3)

---

2. Work out the surface area of this cuboid.



$10 \times 5 = 50$

$5 \times 3 = 15$

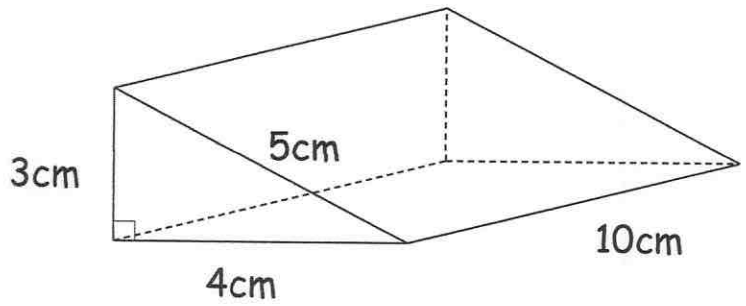
$3 \times 10 = 30$

50
50
30
30
15
+ 15
190

190 .....cm²

(3)

3. Shown below is a triangular prism.



Work out the surface area of the prism.

$\frac{1}{2}(4 \times 3) = 6\ cm^2$

$5 \times 10 = 50$

$4 \times 10 = 40$

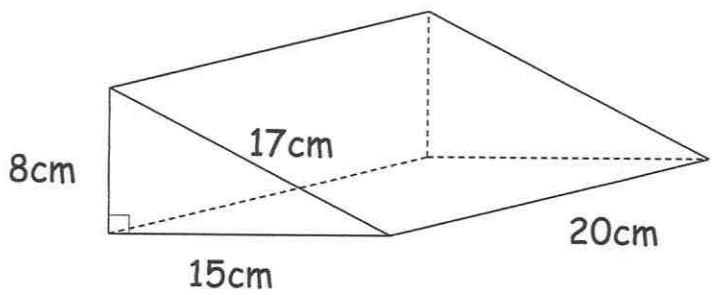
$3 \times 10 = 30$

6
6
50
40
+30
132

132 ..... cm^2

(4)

4.



Work out the total surface area of the triangular prism.

$\frac{1}{2}(8 \times 15) = 60$

$17 \times 20 = 340$

$15 \times 20 = 300$

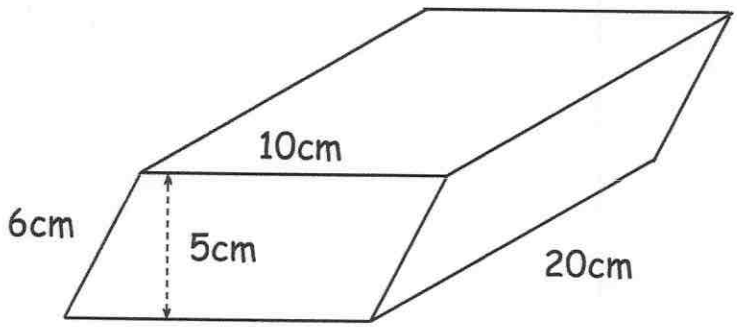
$8 \times 20 = 160$

60
60
340
300
+160
920

920 ..... cm^2

(4)

5. Below is a prism.



Work out the total surface area of the prism.

front & back $5 \times 10 = 50$

top & bottom $10 \times 20 = 200$

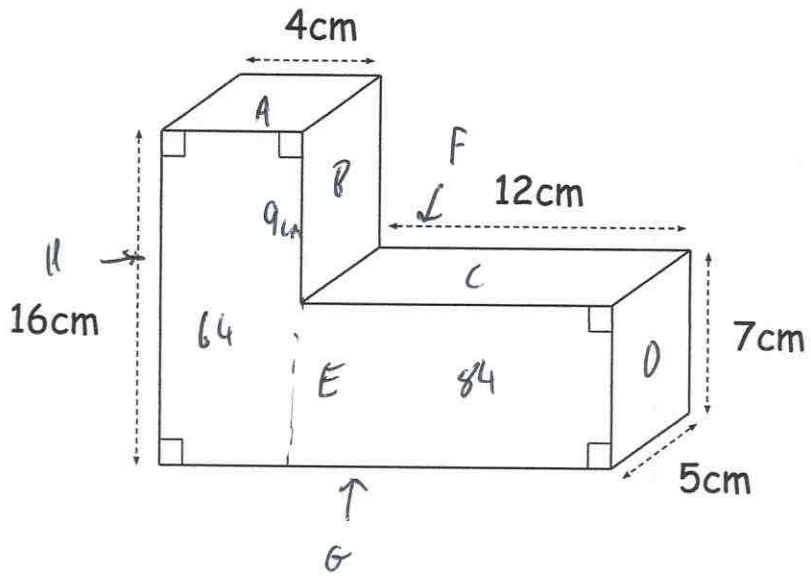
left/right $6 \times 20 = 120$

50
50
120
120
200
+ 200
740

740 .....cm²

(4)

6. Shown below is a prism.



Work out the total surface area of the prism.

(A) $4 \times 5 = 20 cm^2$

(B) $9 \times 5 = 45 cm^2$

(C) $12 \times 5 = 60 cm^2$

(D) $7 \times 5 = 35 cm^2$

(E) $148 cm^2$

(F) $148 cm^2$

(G) $16 \times 5 = 80 cm^2$

(H) $16 \times 5 = 80 cm^2$

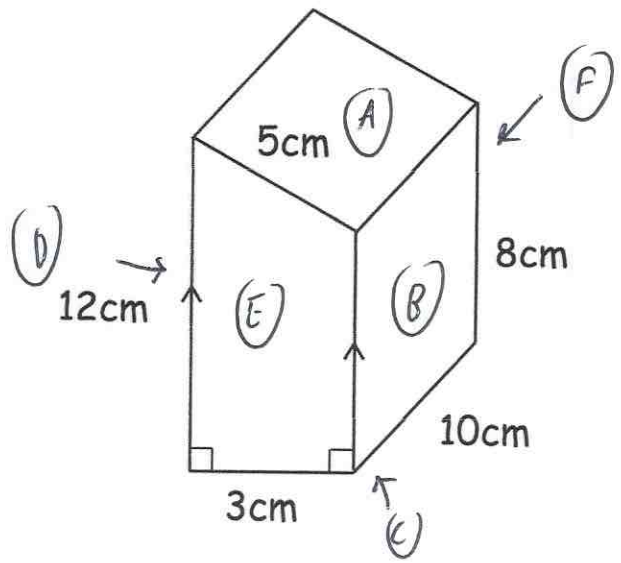
$+$

616

616 .....cm²

(4)

7. Shown below is a prism.



Work out the total surface area of the prism.

(A) $5 \times 10 = 50$

(B) $8 \times 10 = 80$

(C) $3 \times 10 = 30$

(D) $12 \times 10 = 120$

(E) $\frac{1}{2}(8 + 12) \times 3 = 30$

(F) 30

$+$

340

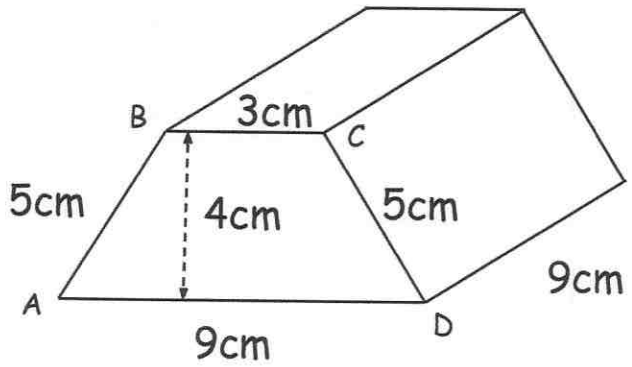
340

.....cm²

(4)

8. Shown below is a prism.

The cross section of the prism is a trapezium, ABCD.



AD = 9cm

AB = CD = 5cm

BC = 3cm

Work out the total surface area of the prism.

front : $\frac{1}{2}(3+9) \times 4$

$= 24\text{cm}^2$

back : 24cm^2

bottom : $9 \times 9 = 81\text{cm}^2$

top : $3 \times 9 = 27\text{cm}^2$

left : $5 \times 9 = 45\text{cm}^2$

right : 45cm^2

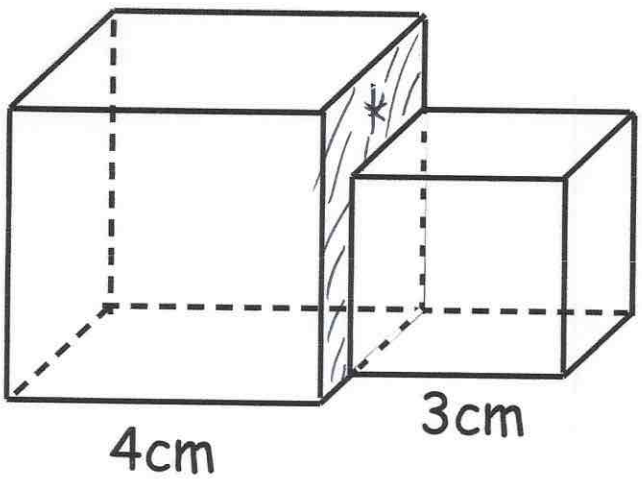
$= 246$

246

.....cm²

(4)

9. Brad creates an ornament by joining two cubes as shown below.



Work out the total surface area of the ornament.

Both cubes have 5 full faces.

$4 \times 4 = 16$

$16 \times 5 = 80\ cm^2$

$3 \times 3 = 9$

$9 \times 5 = 45\ cm^2$

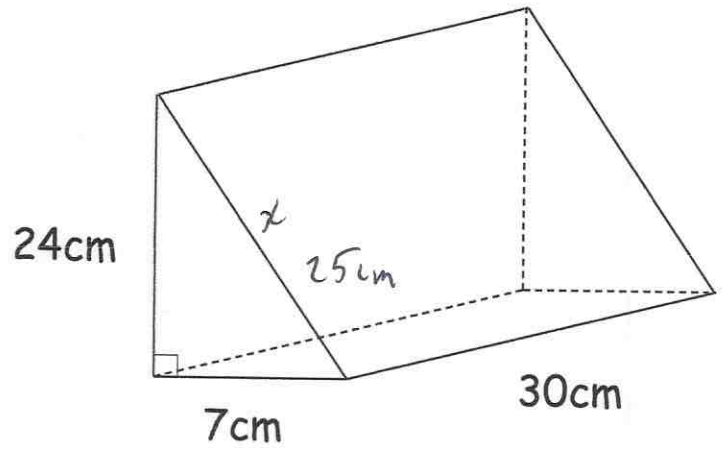
* $(4 \times 4) - (3 \times 3) = 7\ cm^2$

80
45
+ 7
132

132 .....cm²

(4)

10. Shown below is a prism.
The cross section of the prism is a right angle triangle.



Work out the surface area of the prism.

$7^2 + 24^2 = x^2$

$49 + 576 = x^2$

$x^2 = 625$

$x = 25$

front : $\frac{1}{2}(24 \times 7)$
$= 84\text{cm}^2$

back : 84cm^2

bottom : 7×30
$= 210\text{cm}^2$

right : 25×30
$= 750\text{cm}^2$

left : 24×30
$= 720\text{cm}^2$

84
84
210
750
+ 720
1848

1848 .....cm²
(5)