8.3 Answers

8.3.1 Solution to 8.1 Example

Look at alternate angles (Z angles) to see that;

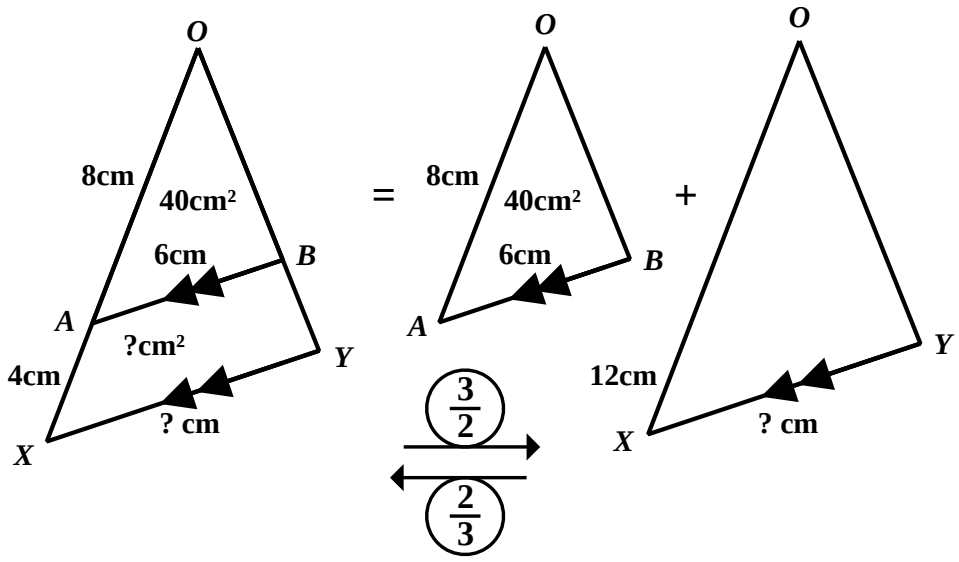
$$lsf = \frac{5.6}{7} \text{ or } \frac{4}{5}$$

(a) 6.5 cm **(b)** 6 cm **(c)** 13.4 cm^2

[2, 2, 3 marks]

8.3.2 Solutions to 8.2 Exercise

Answer 1



$XY = 6 \times \frac{3}{2} = 9\,cm$ $asf = \frac{9}{4}$ $Area\ \Delta OXY = \frac{9}{4} \times 40$

$= 90$ cm^2

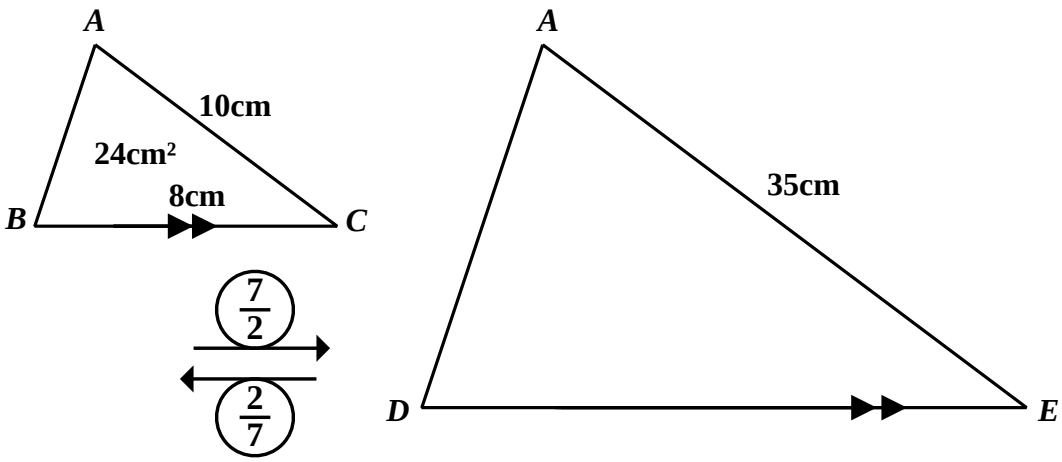
$\therefore$ *Area trapezium ABXY* = 90 – 40 = 50 cm^2

[6 marks]

Answer 2

(i) Two triangles, drawn separately.

[2 marks]



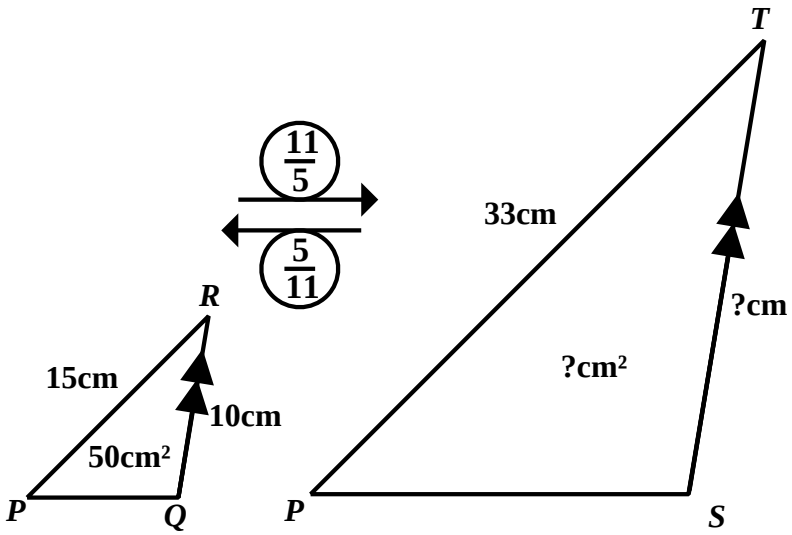
(ii) $DE = 8 \times \frac{7}{2} = 28$ cm $asf = \frac{49}{4}$ $Area\ \Delta ADE = \frac{49}{4} \times 24$

$= 294$ cm^2

$\therefore$ *Area trapezium BCDE* = 294 – 24 = 270 cm^2

[4 marks]

Answer 3



$ST = 10 \times \frac{11}{5} = 22$ cm $asf = \frac{121}{25}$ $Area\ \Delta TPS = \frac{121}{25} \times 50$

$= 242$ cm^2

$\therefore$ *Area trapezium QRTS* = 242 – 50 = 192 cm^2

[6 marks]

Answer 4

(i) $\frac{5}{4}$ **(ii)** $\frac{8}{7}$ **(iii)** $\frac{7}{5}$

[1, 1, 1 marks]

Answer 5

$\frac{2}{1}$ or just 2

[2 marks]

Answer 6

A and *D*

[2 marks]

Answer 7

(a) 8 cm **(b)** 11.25 cm **(c)** 29 cm^2 or 29.16 cm^2

[2, 2, 3 marks]

Answer 8

(i) $VW = 12$ cm (Use $Area\ \Delta = \frac{1}{2}\, b\, h$)

[1 mark]

$UW = 20$ cm (Use Pythagoras' Theorem)

[1 mark]

$XY = 21$ cm (Use $lsf = \frac{7}{4}$)

[1 mark]

$VX = 12$ cm (From calculation that gave $UX = 28$ cm)

[1 mark]

(ii)

$$asf = \frac{49}{16} \qquad so\ Area\ \Delta YUX = \frac{49}{16} \times 96$$

$$= 294\ cm^2$$

$\therefore$ *Area trapezium VWYX* $= 294 - 96 = 198\ cm^2$

[4 marks]