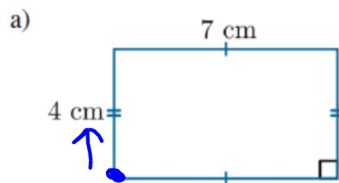


Solutions

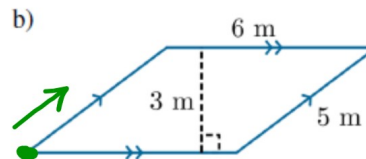
Page 264 #s 1, 2, 4 - 8, 11, 12

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1. Determine the perimeter of each shape.



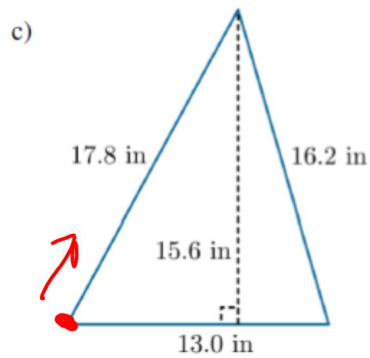
$$P = 4 + 7 + 4 + 7$$
$$P = 22 \text{ cm}$$



$$P = 5 + 6 + 5 + 6$$
$$P = 22 \text{ m}$$

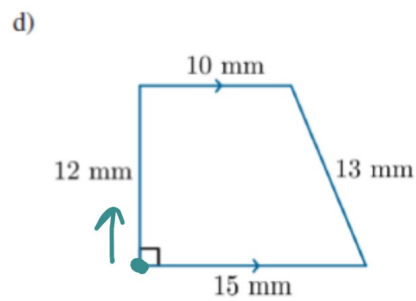
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1. Determine the perimeter of each shape.



$$P = 17.8 + 16.2 + 13.0$$

$$P = 47.0 \text{ in}$$

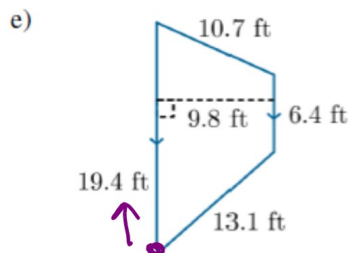


$$P = 12 + 10 + 13 + 15$$

$$P = 50 \text{ mm}$$

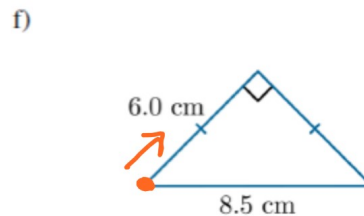
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1. Determine the perimeter of each shape.



$$P = 19.4 + 10.7 + 6.4 + 13.1$$

$$P = 49.6 \text{ ft}$$



X means that they are equal in length

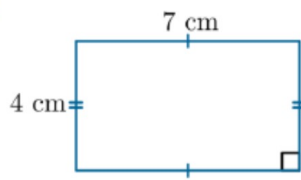
$$\Rightarrow P = 6.0 + 6.0 + 8.5$$

$$P = 20.5 \text{ cm}$$

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2. Determine the area of each shape in question #1.

a)

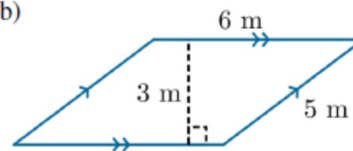


$$A = l \times w$$

$$A = 7 \times 4$$

$$A = 28 \text{ cm}^2$$

b)



$$A = l \times h$$

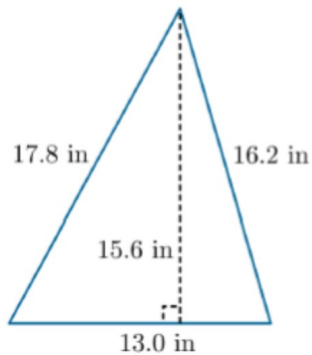
$$A = 6 \times 3$$

$$A = 18 \text{ m}^2$$

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2. Determine the area of each shape in question #1.

c)



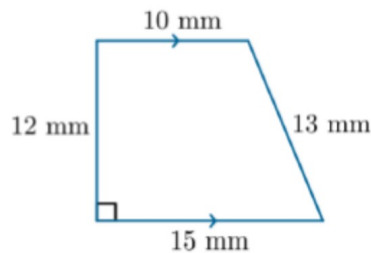
$$A = \frac{b \times h}{2}$$

$$A = \frac{13.0 \times 15.6}{2}$$

$$A = \frac{202.8}{2}$$

$$A = 101.4 \text{ in}^2$$

d)



$$A = \frac{1}{2} (a + b) h$$

$$A = \frac{1}{2} (10 + 15) \times 12$$

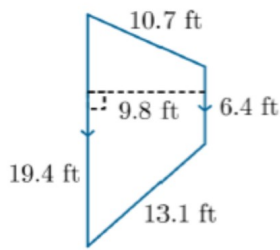
$$A = \frac{1}{2} \times 25 \times 12$$

$$A = 150 \text{ mm}^2$$

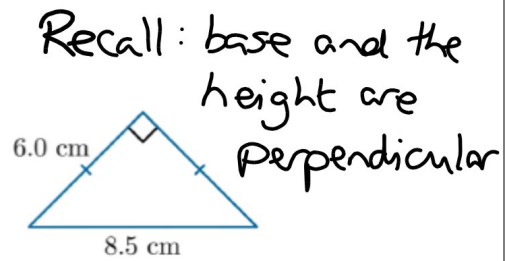
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2. Determine the area of each shape in question #1.

e)



f)



$$A = \frac{1}{2}(a+b)h$$

$$A = \frac{1}{2}(6.4 + 19.4) \times 9.8$$

$$A = \frac{1}{2} \times 25.8 \times 9.8$$

$$A = 126.42 \text{ ft}^2$$

$$A = \frac{b \times h}{2}$$

$$A = \frac{6.0 \times 6.0}{2}$$

$$A = \frac{36.0}{2}$$

$$A = 18 \text{ cm}^2$$

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4. Determine the perimeter and area of the figure shown on the right.

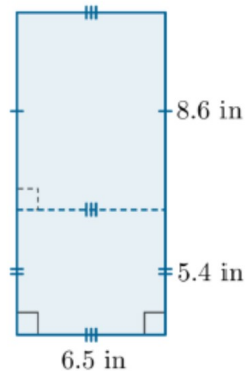
$$P = 2(L + w)$$

$$P = 2(6.5 + (8.6 + 5.4))$$

$$P = 2(6.5 + 14.0)$$

$$P = 2(20.5)$$

$$P = 41 \text{ in}$$



$$A = L \times w$$

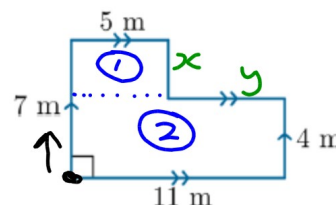
$$A = 6.5 \times (8.6 + 5.4)$$

$$A = 6.5 \times 14.0$$

$$A = 91 \text{ in}^2$$

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5. Find the area and perimeter of the figure shown below.



$$\begin{aligned} x + 4 &= 7 & 5 + y &= 11 \\ x &= 7 - 4 & y &= 11 - 5 \\ x &= 3 \text{ m} & y &= 6 \text{ m} \end{aligned}$$

$$P = 7 + 5 + 3 + 6 + 4 + 11$$

$$P = 36 \text{ m}$$

$$\begin{aligned} \text{Area}_1 &= L \times w \\ &= 5 \times x \\ &= 5 \times 3 \\ &= 15 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} \text{Area}_2 &= L \times w \\ &= 11 \times 4 \\ &= 44 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} \text{Total Area} &= \text{Area}_1 + \text{Area}_2 \\ &= 15 + 44 \\ &= 59 \text{ m}^2 \end{aligned}$$

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6. A rectangle has a length of 12.5 m and an area of 390 m^2 . Determine the width of the rectangle.

$$\begin{aligned} \text{Area} &= \text{length} \times \text{width} \\ \Rightarrow \frac{390}{12.5} &= \frac{12.5 \times \text{width}}{12.5} \\ 31.2 \text{ m} &= \text{width} \end{aligned}$$

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7. A square has a perimeter of 152 inches. Determine the area of the square.

$$P = S + S + S + S$$

$$P = 4S$$

$$\Rightarrow \frac{152}{4} = \frac{4S}{4}$$

$$38 \text{ in} = \text{side length}$$

$$\begin{aligned} \text{Area} &= \text{Side} \times \text{side} \\ &= 38 \times 38 \\ &= 1444 \text{ in}^2 \end{aligned}$$

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8. A square has an area of 295.84 cm^2 . Find the perimeter of the square.

$$A = \text{Side}^2$$

$$\Rightarrow 295.84 = \text{Side}^2$$

$$\sqrt{295.84} = \sqrt{\text{Side}^2}$$

$$17.2 \text{ cm} = \text{side}$$

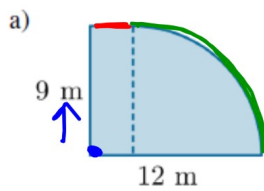
$$P = 4S$$

$$\Rightarrow P = 4(17.2)$$

$$P = 68.8 \text{ cm}$$

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11. Determine the perimeter and area of the figure.



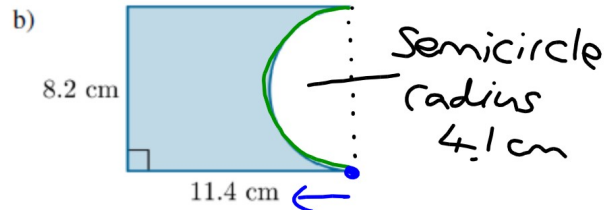
$$P = 9 + 3 + \frac{2\pi(9)}{4} + 12$$

$$P = 38.1 \text{ m}$$

$$A = \text{rectangle} + \text{quarter circle}$$

$$A = 9 \times 3 + \frac{\pi(9)^2}{4}$$

$$A = 90.6 \text{ m}^2$$



$$P = 11.4 + 8.2 + 11.4 + \frac{2\pi(4.1)}{2}$$

$$P = 43.9 \text{ cm}$$

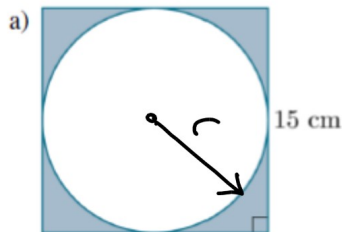
$$A = \text{rectangle} - \text{semicircle}$$

$$A = 8.2 \times 11.4 - \frac{\pi(4.1)^2}{2}$$

$$A = 67.1 \text{ cm}^2$$

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12. Determine the area of the shaded region.

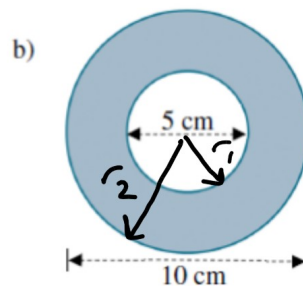


$$r = \frac{15}{2} = 7.5 \text{ cm}$$

$$\text{Shaded} = \text{Square} - \text{circle}$$

$$= 15 \times 15 - \pi(7.5)^2$$

$$= 48.3 \text{ cm}^2$$



$$r_1 = \frac{5}{2} = 2.5 \text{ cm}$$

$$r_2 = \frac{10}{2} = 5 \text{ cm}$$

$$\text{Shaded} = \text{large circle} - \text{small circle}$$

$$= \pi(5)^2 - \pi(2.5)^2$$

$$= 58.9 \text{ cm}^2$$

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