

1 Trigonometry in Right Triangles

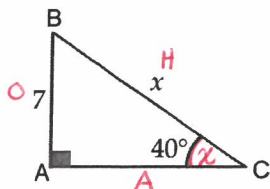
REVIEW

Answer Key



Skill Builder

- 1 Find $m\overline{BC}$ in $\triangle ABC$.



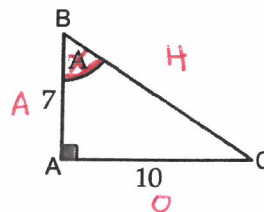
My Calculations

$$\sin(40) = \frac{7}{x}$$

$$x \cdot \sin(40) = 7$$

$$x = \frac{7}{\sin(40)} \quad x = 10.89 \text{ units}$$

- 4 Find $\angle ABC$ in $\triangle ABC$.



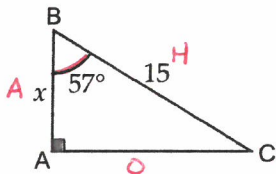
My Calculations

$$\tan(x) = \frac{10}{7}$$

$$\tan^{-1}\left(\frac{10}{7}\right) = x$$

$$x = 55^\circ$$

- 2 Find $m\overline{AB}$ in $\triangle ABC$.



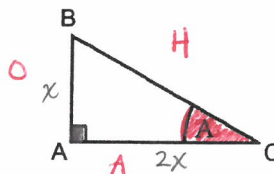
My Calculations

$$\cos(57) = \frac{x}{15}$$

$$x = 15 \cdot \cos(57)$$

$$x = 8.17 \text{ units}$$

- 5 Find $\angle ACB$ if $m\overline{AC}$ is twice $m\overline{AB}$ in $\triangle ABC$.



My Calculations

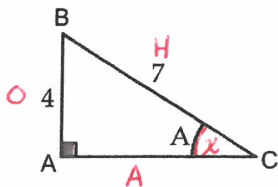
$$\tan(A) = \frac{1x}{2x}$$

$$\tan(A) = 0.5$$

$$\tan^{-1}(0.5) = A$$

$$A = 27^\circ$$

- 3 Find $\angle ACB$ in $\triangle ABC$.



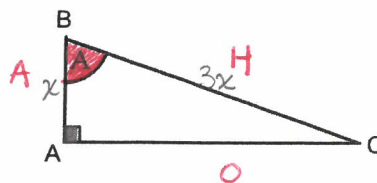
My Calculations

$$\sin(x) = \frac{4}{7}$$

$$\sin^{-1}\left(\frac{4}{7}\right) = x$$

$$x = 35^\circ$$

- 6 Find $\angle ABC$ if $m\overline{BC}$ is three times $m\overline{AB}$ in $\triangle ABC$.



My Calculations

$$\cos(A) = \frac{1x}{3x}$$

$$\cos(A) = \frac{1}{3}$$

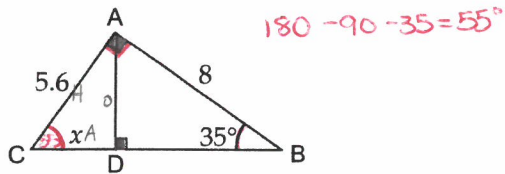
$$\cos^{-1}\left(\frac{1}{3}\right) = A$$

$$A = 71^\circ$$

Skill Builder

Answer Key

- 7 Find $m\overline{CD}$ in the diagram below.



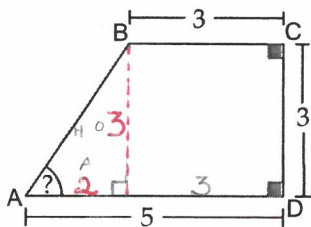
My Calculations

$$\cos(55) = \frac{x}{5.6}$$

$$x = 5.6 \cos(55)$$

$$x = 3.2 \text{ units}$$

- 8 Find $\angle BAD$ in the right trapezoid below.



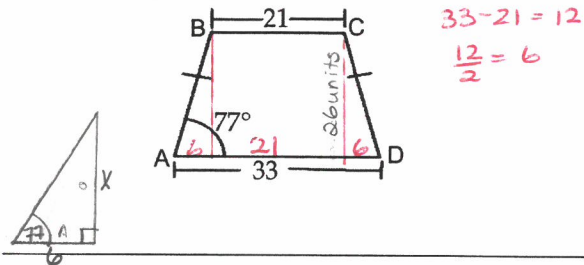
My Calculations

$$\tan(x) = \frac{3}{2}$$

$$\tan^{-1}\left(\frac{3}{2}\right) = x$$

$$x = 56^\circ$$

- 9 Find the area of the isosceles trapezoid below.



My Calculations

$$\tan(77) = \frac{x}{6}$$

$$x = 6 \cdot \tan(77)$$

$$x = 25.99$$

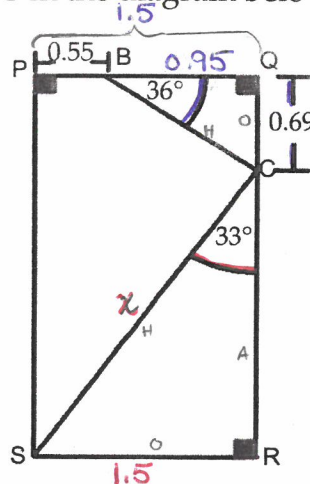
$$x = 26 \text{ units}$$

$$A_t = \frac{(b_1 + b_2)h}{2}$$

$$= \frac{(21 + 33)(26)}{2}$$

$$= 702 \text{ units}^2$$

- 10 Find $m\overline{SC}$ in the diagram below.



My Calculations

$$\tan(36) = \frac{0.69}{x}$$

$$x = \frac{0.69}{\tan(36)}$$

$$x = 0.95$$

$$0.95 + 0.55 = 1.5$$

$$\sin(33) = \frac{1.5}{x}$$

$$x = \frac{1.5}{\sin(33)}$$

$$x = 2.75 \text{ units}$$