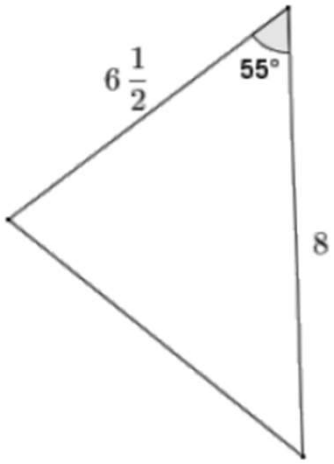
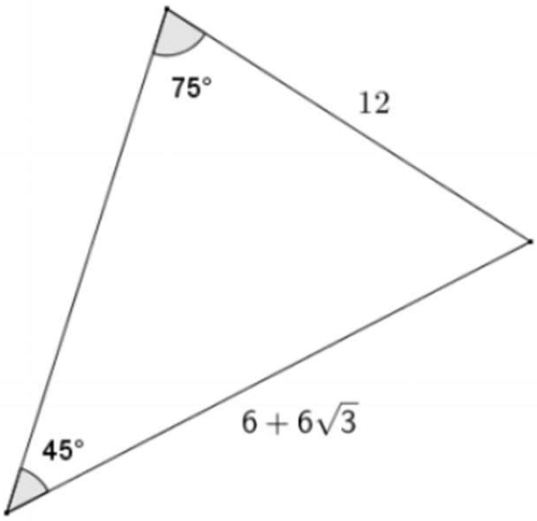
Trigonometry Worksheets

Area using Sine

Find the area of each triangle. Round each answer to the nearest tenth.





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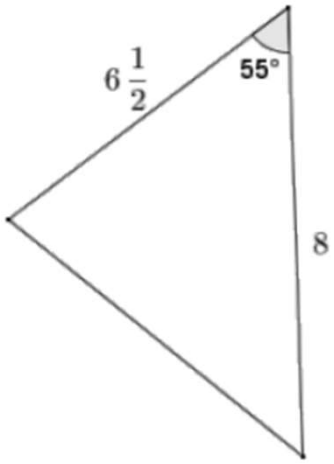
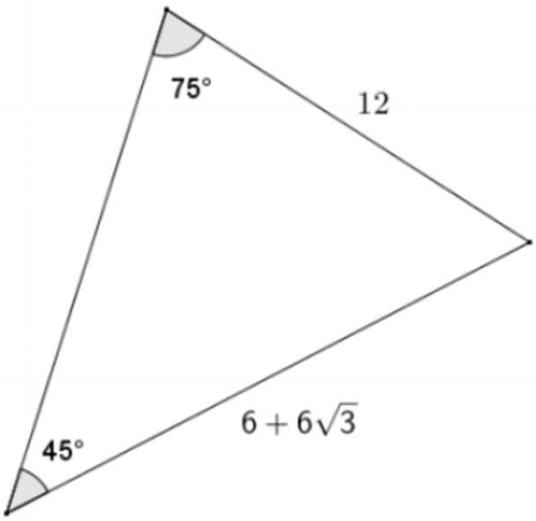


$$\text{Area} = \frac{1}{2}(8)\left(6\frac{1}{2}\right)(\sin 55)$$

$$\text{Area} = 26(\sin 55) \approx 21.3$$

The area of the triangle is approximately 21.3 square units.



The included angle is 60° by the angle sum of a triangle.

$$\text{Area} = \frac{1}{2}(12)(6+6\sqrt{3})\sin 60$$

$$\text{Area} = 6(6+6\sqrt{3})\left(\frac{\sqrt{3}}{2}\right)$$

$$\text{Area} = (36+36\sqrt{3})\left(\frac{\sqrt{3}}{2}\right)$$

$$\text{Area} = 18\sqrt{3}+18(3)$$

$$\text{Area} = 18\sqrt{3}+54 \approx 85.2$$

The area of the triangle is approximately 85.2 square units.