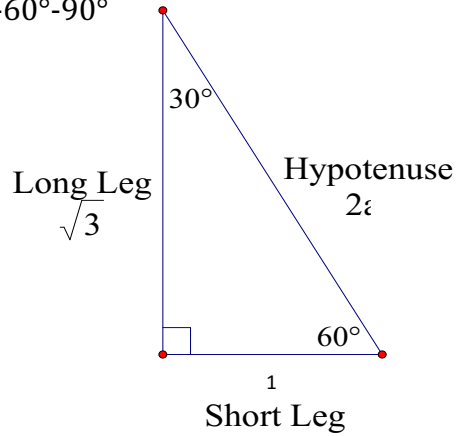


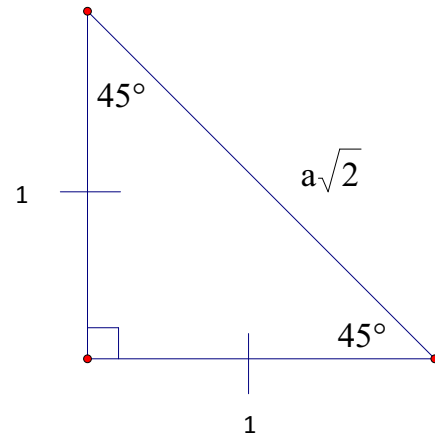
Unit 2 Main Points

1) Solve for sides of Special Right Triangles

30°-60°-90°



45°-45°-90°



2) Solve for sides and angles using Trigonometry

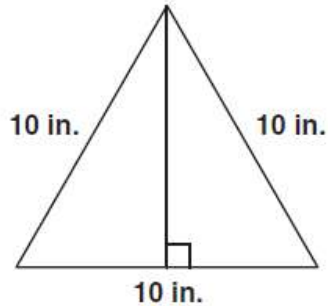
SOH-CAH-TOA

$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}} \quad \cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}} \quad \tan \theta = \frac{\text{opposite}}{\text{adjacent}}$$

- Be able to use the inverse to solve for the angles within a triangle (EX: $\sin^{-1}(\frac{\text{opp}}{\text{hyp}}) = \theta$)
- Be able to construct triangles based on written information and use the above trig ratios to solve the problem (i.e. word problems)
- Know what an angle of elevation/depression is and how to use it
- Know that $(90-\theta)$ means “the other angle”

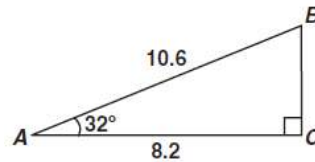
Unit 2 EOCT Practice

1. What is the area, in square inches, of the triangle below?



- A 25
- B $25\sqrt{3}$
- C 50
- D $50\sqrt{3}$

2. Right triangle ABC is pictured below.



Which equation gives the correct value for BC ?

- A $\sin 32^\circ = \frac{BC}{8.2}$
- B $\cos 32^\circ = \frac{BC}{10.6}$
- C $\tan 58^\circ = \frac{8.2}{BC}$
- D $\sin 58^\circ = \frac{BC}{10.6}$

3. The length of the diagonal of a square is $14\sqrt{2}$. What the perimeter of the square? (exact value)

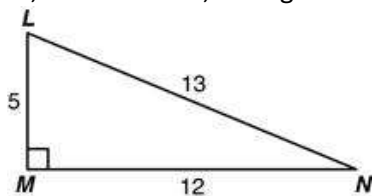
4. The bottom of a slide is 4.3 meters from the bottom of a ladder. If the slide is 7.5 meters, what angle does the slide make with ground? (nearest whole degree)

5. In right triangle ABC , angle A and angle B are complementary angles. The value of $\cos A$ is $\frac{5}{13}$. What is the value of $\sin B$?

- A. $\frac{5}{13}$
- B. $\frac{12}{13}$
- C. $\frac{13}{12}$
- D. $\frac{13}{5}$

6. From the top of the 100 ft tall building a man observes a car moving toward the building. If the angle of depression of the car changes from 22° to 46° during the period of observation, how far does the car travel? (nearest foot)

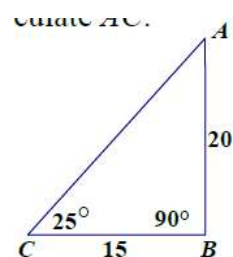
7. Triangle LMN , shown below, is a right triangle.



Which of the following is equivalent to $\sin L$?

- A. $\cos L$
- B. $\tan L$
- C. $\sin N$
- D. $\cos N$

8. Find the expression that could be used to calculate AC .

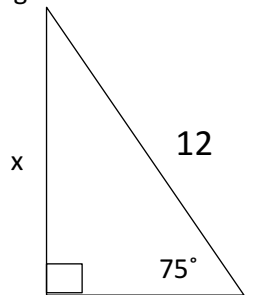


- A. $20 \cos 25^\circ$
- B. $20 \sin 25^\circ$
- C. $\frac{20}{\cos 25^\circ}$
- D. $\frac{20}{\sin 25^\circ}$

9. A boat is 70 m from a lighthouse. The measurement of the angle of elevation from the boat to the top of the lighthouse is 52° . Find the height of the lighthouse to the nearest meter.

10. The side length of an equilateral triangle is 11 cm. Find the length of the altitude. Round to nearest tenth. _____

11. A 12-foot ladder is leaning against a building at a 75° angle with the ground. Which can be used to find how high the ladder reaches up the side of the building?



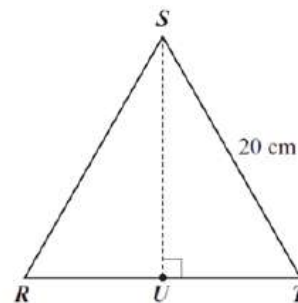
A. $\sin 75^\circ = \frac{12}{x}$

B. $\tan 75^\circ = \frac{12}{x}$

C. $\cos 75^\circ = \frac{x}{12}$

D. $\sin 75^\circ = \frac{x}{12}$

12. In the diagram, $\triangle RST$ is equilateral, and U is the midpoint of RT . If the length of ST is 20 cm, what is the length of SU ?



A. $10\sqrt{3}$ cm

B. 10 cm

C. $20\sqrt{3}$ cm

D. 20 cm

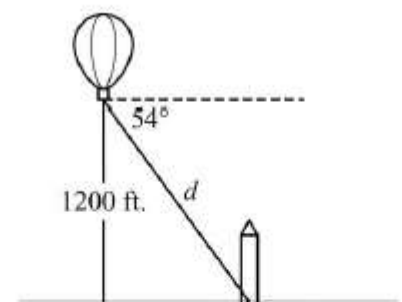
13. A hot air balloon is 1200 feet above the ground. The angle of depression from the basket of the hot air balloon to the base of a monument is 54° . Which equation can be used to find the distance, d , in feet, from the basket of the hot air balloon to the base of the monument?

A. $\sin 54^\circ = \frac{d}{1200}$

B. $\cos 54^\circ = \frac{1200}{d}$

C. $\cos 54^\circ = \frac{d}{1200}$

D. $\sin 54^\circ = \frac{1200}{d}$



14.

In the diagram, $\triangle RST$ is equilateral, and U is the midpoint of $\overline{RT}$. If the length of $\overline{ST}$ is 20 cm, what is the length of $\overline{SU}$?

A. $10\sqrt{3}$ cm

B. 10 cm

C. $20\sqrt{3}$ cm

D. 20 cm

