

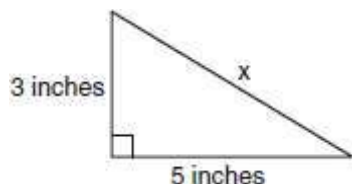
Name _____
Mr. Schlansky

Date _____
Geometry

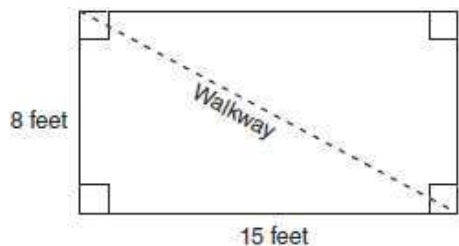


Right Triangles Review Sheet

1. What is the value of x , in inches, in the right triangle below?

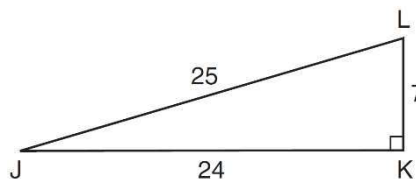


2. Nancy's rectangular garden is represented in the diagram below. If a diagonal walkway crosses her garden, what is its length, in feet?



3. In right triangle JKL in the diagram below, $KL = 7$, $JK = 24$, $JL = 25$, and $\angle K = 90^\circ$. Which statement is *not* true?

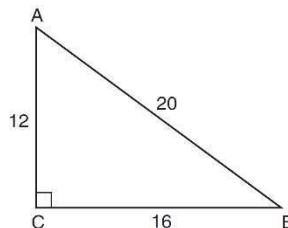
- 1) $\tan L = \frac{24}{7}$
- 2) $\cos L = \frac{24}{25}$
- 3) $\tan J = \frac{7}{24}$
- 4) $\sin J = \frac{7}{25}$



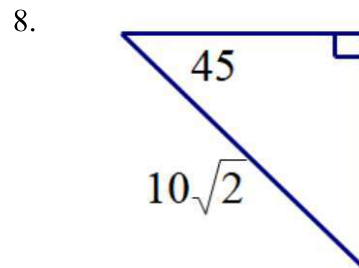
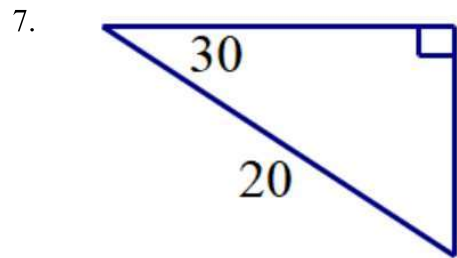
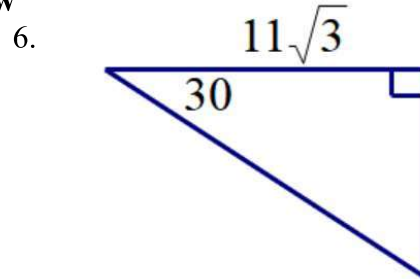
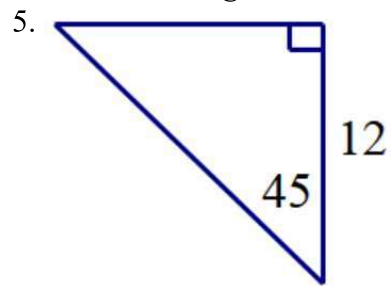
4. In right triangle ABC shown below, $AC = 12$, $BC = 16$, and $AB = 20$.

Which equation is *not* correct?

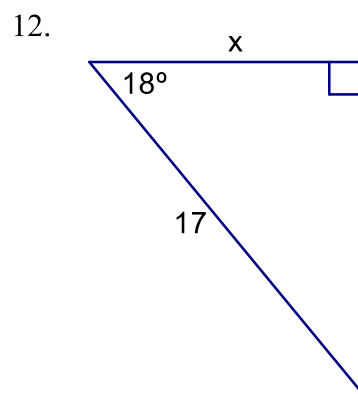
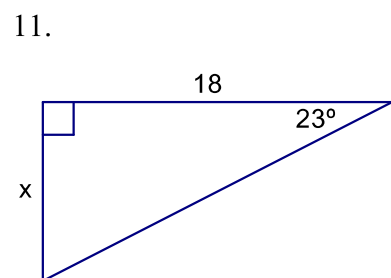
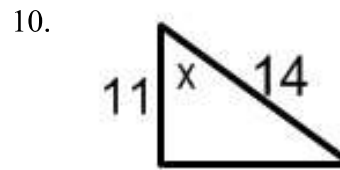
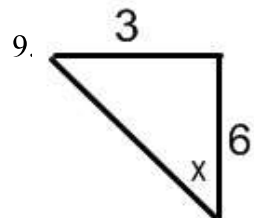
- 1) $\cos A = \frac{12}{20}$
- 2) $\tan A = \frac{16}{12}$
- 3) $\sin B = \frac{12}{20}$
- 4) $\tan B = \frac{16}{20}$



Find the missing sides of the right triangles below



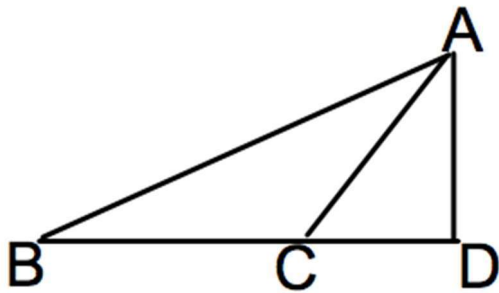
Find x in the following right triangles rounded to the *nearest tenth*.



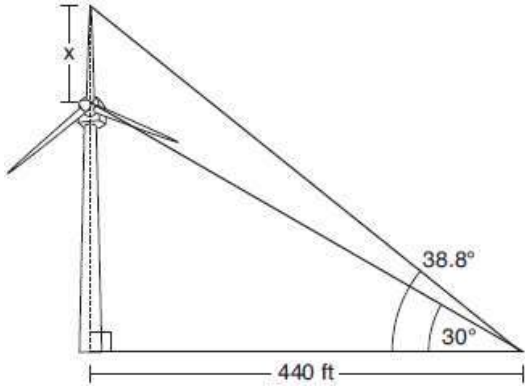
13. A 28-foot ladder is leaning against a house. The bottom of the ladder is 6 feet from the base of the house. Find the measure of the angle formed by the ladder and the ground, to the *nearest degree*.

14. A 20-foot support post leans against a wall, making a 70° angle with the ground. To the *nearest tenth of a foot*, how far up the wall will the support post reach?

15. In the diagram below, $m\angle CAD = 35$, $m\angle ABD = 42$, and $m\overline{AD} = 60$. Find to the nearest tenth, $m\overline{BC}$.



16. Nick wanted to determine the length of one blade of the windmill pictured below. He stood at a point on the ground 440 feet from the windmill's base. Using surveyor's tools, Nick measured the angle between the ground and the highest point reached by the top blade and found it was 38.8° . He also measured the angle between the ground and the lowest point of the top blade, and found it was 30° . Determine and state a blade's length, x , to the *nearest foot*.



17. If $\sin(x+15) = \cos(45)$, determine the value of x .

18. If $\sin(2x+7)^\circ = \cos(4x-7)^\circ$, what is the value of x ?

19. Right triangle TMR is a scalene triangle with the right angle at M . Which equation is true?

- | | |
|----------------------|----------------------|
| 1) $\sin M = \cos T$ | 3) $\sin T = \cos R$ |
| 2) $\sin R = \cos R$ | 4) $\sin T = \cos M$ |

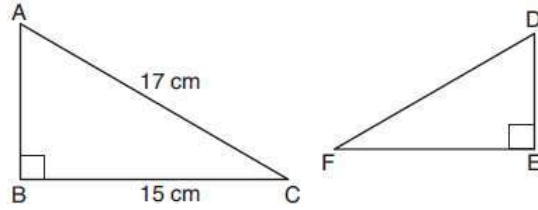
20. In right triangle DAN , $m\angle A = 90^\circ$. Which statement must always be true?

- | | |
|----------------------|----------------------|
| 1) $\cos D = \cos N$ | 3) $\sin A = \cos N$ |
| 2) $\cos D = \sin N$ | 4) $\cos A = \tan N$ |

21. Kayla was cutting right triangles from wood to use for an art project. Two of the right triangles she cut are shown below.

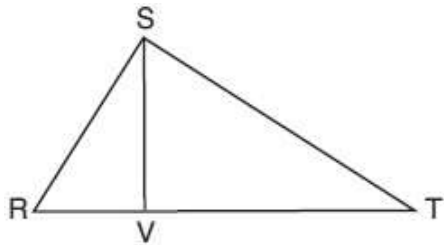
If $\triangle ABC \sim \triangle DEF$, with right angles B and E , $BC = 15$ cm, and $AC = 17$ cm, what is the measure of $\angle F$, to the nearest degree?

- 1) 28°
- 2) 41°
- 3) 62°
- 4) 88°

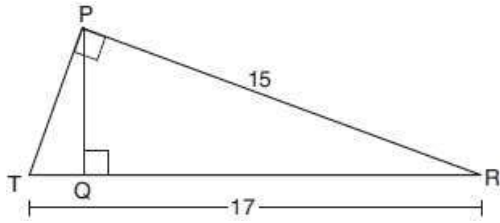


22. Scalene triangle XYZ is similar to triangle QRS and $m\angle X = 90^\circ$. If $\overline{XY} = 10$ and $\overline{ZY} = 15$, find the measure of $\angle S$ to the nearest tenth of a degree.

23. In right triangle RST below, altitude \overline{SV} is drawn to hypotenuse \overline{RT} . If $RV = 4.1$ and $TV = 10.2$, what is the length of \overline{ST} , to the nearest tenth?



24. In right triangle PRT , $m\angle P = 90^\circ$, altitude \overline{PQ} is drawn to hypotenuse \overline{RT} , $RT = 17$, and $PR = 15$. Determine and state, to the *nearest tenth*, the length of \overline{RQ} .



25. Which rotation would map a regular hexagon onto itself?

- 1) 45°
- 2) 150°
- 3) 240°
- 4) 315°

26. Which rotation about its center will carry a regular decagon onto itself?

- 1) 54°
- 2) 162°
- 3) 198°
- 4) 252°