

7.5 - 7.7 Quiz Review

Geometry

Name Answer Key

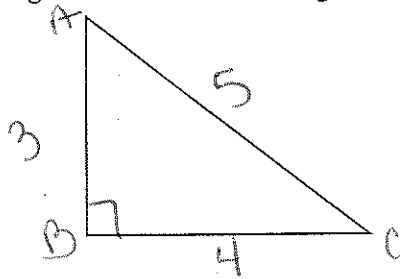


7.6

I can use the sine, cosine, or tangent ratio for indirect measurement.



1. If the triangle ABC is a right triangle and angle B is 90° , $AB = 3$ in, $BC = 4$ in, and $AC = 5$ in; find the THREE trigonometric ratios of angle A.

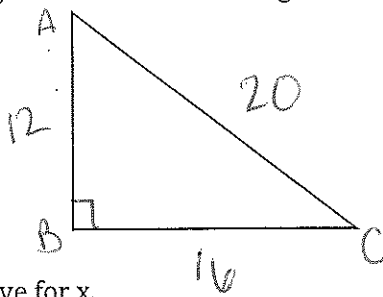


$$\sin A = \frac{4}{5}$$

$$\cos A = \frac{3}{5}$$

$$\tan A = \frac{4}{3}$$

2. If the triangle ABC is a right triangle and angle B is 90° , $AB = 12$ in, $BC = 16$ in, and $AC = 20$ in; find the THREE trigonometric ratios of angle C.

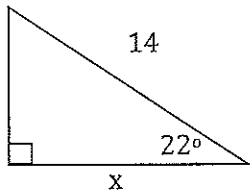


$$\sin A = \frac{16}{20} = \frac{4}{5}$$

$$\tan A = \frac{16}{12} = \frac{4}{3}$$

$$\cos A = \frac{12}{20} = \frac{3}{5}$$

3. Solve for x.

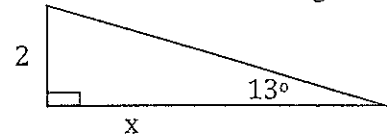


$$\frac{\cos 22}{1} = \frac{x}{14}$$

$$14 \cdot \cos 22 = x$$

$$x = 13$$

4. Solve for x to the nearest degree.

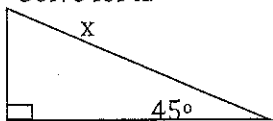


$$\tan 13 = \frac{2}{x}$$

$$\frac{x \cdot \tan 13}{\tan 13} = \frac{2}{\tan 13}$$

$$x = 8.7$$

5. Solve for x.

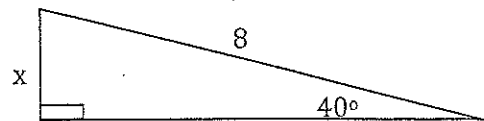


$$\frac{\cos 45}{1} = \frac{2}{x}$$

$$\frac{x \cdot \cos 45}{\cos 45} = \frac{2}{\cos 45}$$

$$x = 2.8$$

6. Find x to the nearest hundredth.

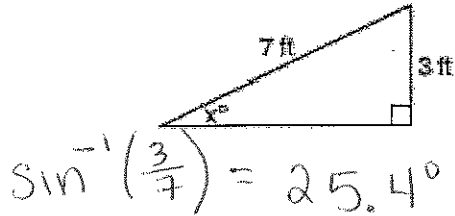


$$\frac{\sin 40}{1} = \frac{x}{8}$$

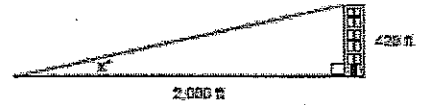
$$8 \cdot \sin 40 = x$$

$$x = 5.1$$

7. Ron and Francine are building a ramp for performing skateboard stunts, as shown in the accompanying diagram. The ramp is 7 feet long and 3 feet high. What is the measure of the angle, x , that the ramp makes with the ground, to the nearest tenth of a degree?

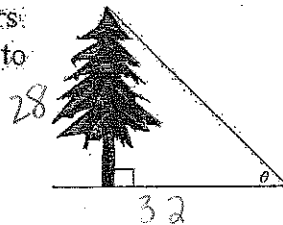


8. A person standing on level ground is 2,000 feet away from the foot of a 420-foot-tall building, as shown in the accompanying diagram. To the nearest degree, what is the value of x ?



$\tan^{-1}\left(\frac{420}{2000}\right) = 12^\circ$

9. If a tree 28 meters tall casts a shadow 32 meters long, what is the angle of elevation of the Sun to the nearest degree?



$\tan^{-1}\left(\frac{28}{32}\right) = 41^\circ$

7.7	I can use inverse tangent, sine, and cosine ratios to solve right triangles.	
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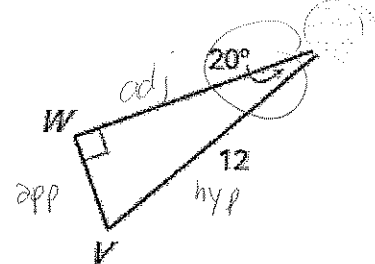
10 – 11 Solve the Right Triangle (Find the value of all 3 sides and all 3 angles)

10. $m\angle V = 70^\circ$ $\overline{VW} = 4.1$ $\overline{WX} = 11.3$

$90 - 20 = 70^\circ$

$\frac{\sin 20^\circ \times x}{1} = \frac{x}{12}$

$4.1^2 + b^2 = 12^2$



11. $m\angle N = 25^\circ$ $m\angle M = 65^\circ$ $\overline{MN} = \sqrt{274}$

$\tan^{-1}\left(\frac{7}{15}\right)$

$90 - 25$

$7^2 + 15^2 = c^2$

$\sqrt{274} = c$

