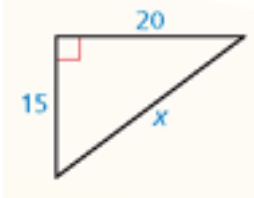


Name: _____ Date: _____ Band: _____
Geometry

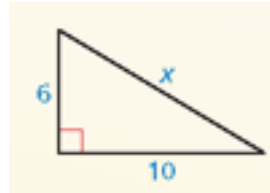
7.1 The Pythagorean Theorem

Find the value of x . Then tell whether the side lengths form a Pythagorean triple.

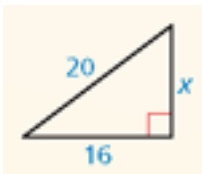
1.



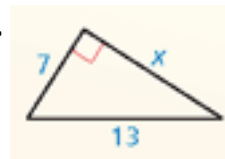
2.



3.



4.



Verify that the segment lengths form a triangle. Is the triangle *acute*, *right*, or *obtuse*?

5. 6, 8, 9

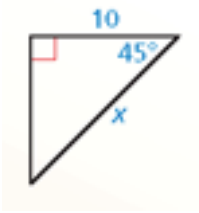
6. $10, 2\sqrt{2}, 6\sqrt{3}$

7. $13, 18, 3\sqrt{55}$

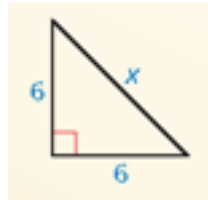
7.2 Special Right Triangles

Find the value of x . Write your answer in simplest radical form.

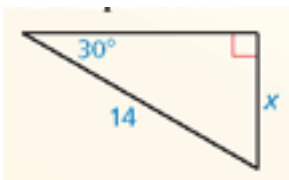
8.



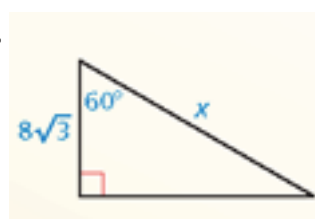
9.



10.



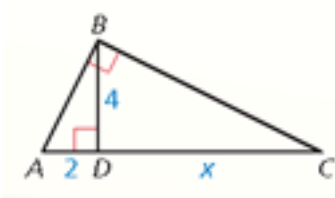
11.



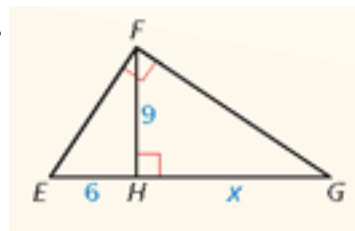
7.3 Similar Right Triangles

Identify the similar triangles. Then find the value of x .

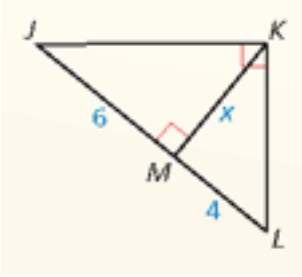
12.



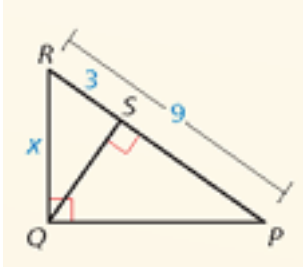
13.



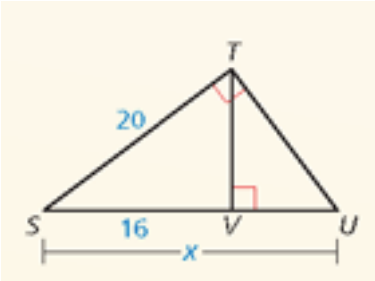
14.



15.



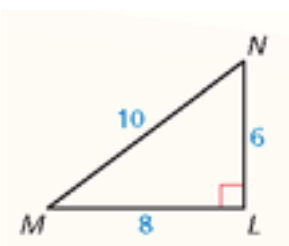
16.



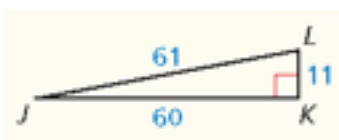
7.4 The Tangent Ratio

Find the tangents of the acute angles in the right triangle. Write each answer as a fraction and as a decimal rounded to four decimal places.

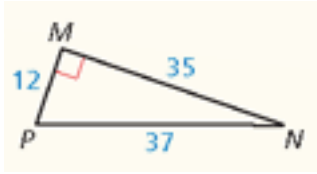
17.



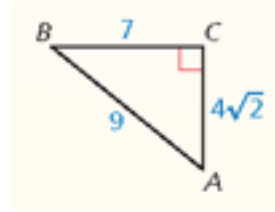
18.



19.

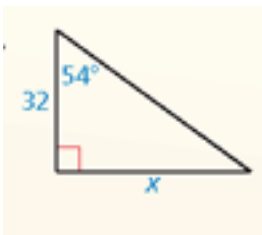


20.

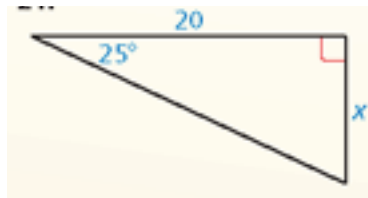


Find the value of x . Round your answer to the nearest tenth.

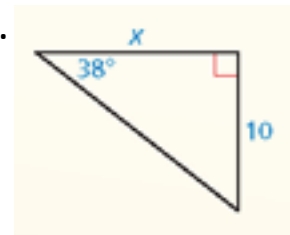
21.



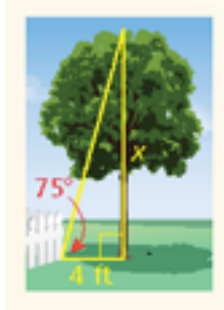
22.



23.

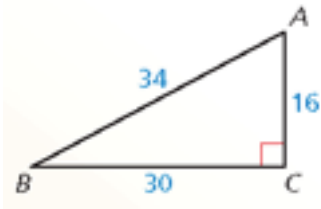


24. The angle between the bottom of a fence and the top of a tree is 75° . The tree is 4 feet from the fence. How tall is the tree? Round your answer to the nearest foot.



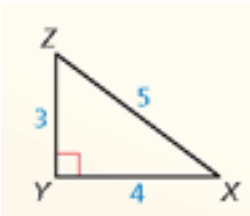
7.5 The Sine and Cosine Ratios

25. Find $\sin A$, $\sin B$, $\cos A$, and $\cos B$. Write each answer as a fraction and as a decimal rounded to four places.

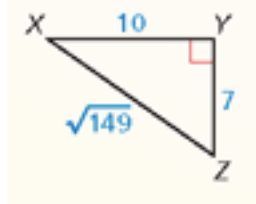


Find $\sin X$, $\sin Z$, $\cos X$, and $\cos Z$. Write each answer as a fraction and as a decimal rounded to four decimal places.

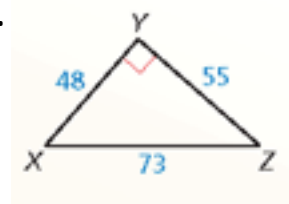
26.



27.

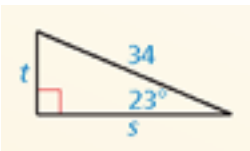


28.



Find the value of each variable using sine and cosine. Round your answers to the nearest tenth.

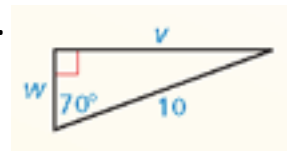
29.



30.



31.



32. Write $\sin 72^\circ$ in terms of cosine.

33. Write $\cos 29^\circ$ in terms of sine.

7.6 Solving Right Triangles

Let $\angle Q$ be an acute angle. Use a calculator to approximate the measure of $\angle Q$ to the nearest tenth of a degree.

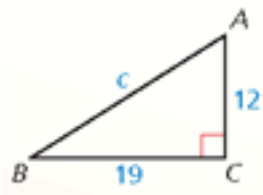
34. $\cos Q = 0.32$

35. $\sin Q = 0.91$

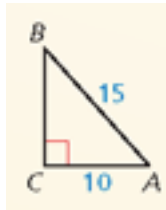
36. $\tan Q = 0.04$

Solve the right triangle. Round decimal answers to the nearest tenth.

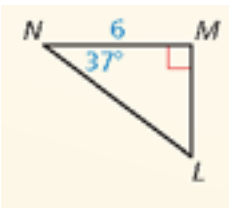
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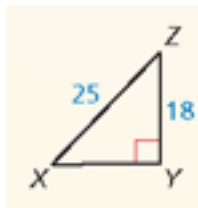
38.



39.



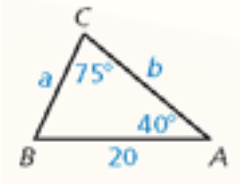
40.



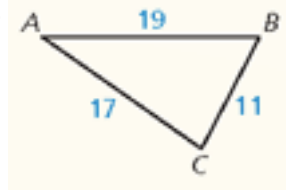
7.7 Law of Sines and Law of Cosines

Solve the triangle. Round decimal answers to the nearest tenth.

41.



42.



Find the area of $\triangle ABC$ with the given side lengths and included angle.

43. $m\angle B = 124^\circ, a = 0, c = 11$

44. $m\angle A = 68^\circ, b = 13, c = 7$

45. $m\angle C = 79^\circ, a = 25, b = 17$

Solve $\triangle ABC$. Round decimal answers to the nearest tenth.

46. $m\angle A = 112^\circ, a = 9, b = 4$

47. $m\angle A = 28^\circ, m\angle B = 64^\circ, c = 55$

48. $m\angle C = 48^\circ, b = 20, c = 28$

49. $m\angle B = 25^\circ, a = 8, c = 3$

50. $m\angle B = 102^\circ, m\angle C = 43^\circ, b = 21$

51. $a = 10, b = 3, c = 12$