Algebra 2

Sheet # 622: Right Triangles

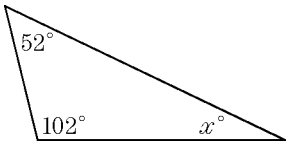
Name _____ Per/Sec. _____

1. Find the distance between $(-5, 6)$ and $(-9, 6)$.

2. Find the distance between $(-3, 2)$ and $(-3, -5)$.

3. Find the distance between $(3, -5)$ and $(-1, 2)$.

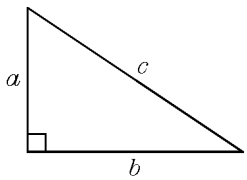
4. Find the value of x in the diagram.



5. In a right triangle, the side opposite the right angle is called the ____.

6. In a right triangle, the sides that form the right angle are called the ____.

7. In the diagram, $a = 3$ and $b = 4$. Find c.

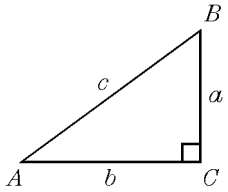


8. In the diagram, $a = 7$ and $b = 24$. Find c.

9. If a 25-foot ladder is placed against a wall so that it reaches a height of 24 feet, how far away from the base of the wall are the feet of the ladder?

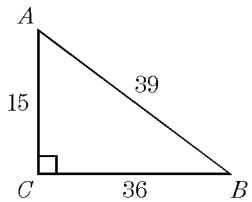
10. Two vehicles leave the same town at 8 am. One travels north at 30 mph, the other travels west at 45 mph. To the nearest hundredth of a mile, how far apart are they at 11 am the same day?

11. What is the sine ratio of $\angle A$?

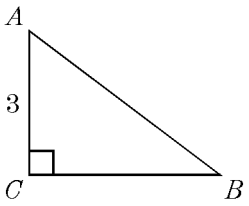


12. What is the cosine ratio of $\angle A$?

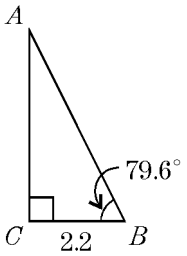
13. Given $\triangle ABC$ shown, express the *sine*, *cosine*, and *tangent* of $\angle A$ as reduced fractions.



14. If $\cos \angle A = \frac{3}{5}$, find AB.



15. Find AB to the nearest tenth.



16. Use a calculator to find the values of the following ratios to four decimal places.

    a) $\sin 10^\circ$

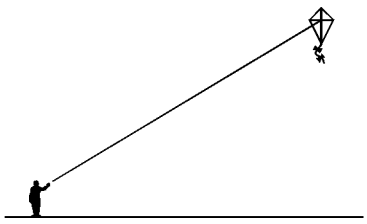
    b) $\cos 80^\circ$

    c) $\tan 50^\circ$

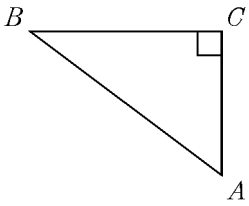
    d) $\sin 65^\circ$

    e) $\tan 40^\circ$

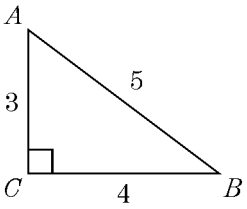
17. When I went kite flying the other day, I managed to let out an entire roll of string (400 feet). If the string, when pulled tight, formed a 40° angle with the ground, about how high was the kite?



18. Solve the right triangle if $\angle A = 63^\circ$ and $a = 9.7$ meters. Give lengths to 3 significant figures and angles to the nearest tenth of a degree.



19. $\sin \angle \_\_\_\_ = \frac{4}{5}$



20. One end of a ramp is raised to the back of a truck 1 meter above the ground. If the length of the ramp is 3 meters, what is the approximate measure of the angle the ramp makes with the ground? Round your answer to the nearest tenth of a degree.