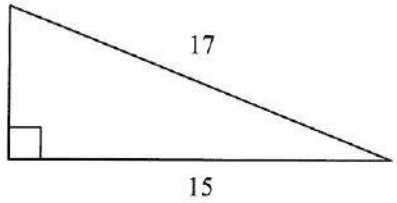
Name: _____ Class: _____ Date: _____ ID: A

Pre-AP Geometry B Chapter 8 Test Review

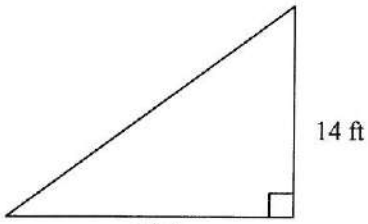
Find the length of the missing side. The triangle is not drawn to scale.

1.



Find the length of the missing side. Leave your answer in simplest radical form.

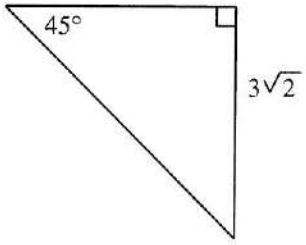
2.



Not drawn to scale

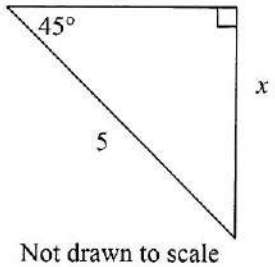
3. A triangle has sides of lengths 24, 143, and 145. Is it a right triangle? Explain.

4. Find the length of the hypotenuse.



Name: _____ ID: A

5. Find the value of the variable. If your answer is not an integer, leave it in simplest radical form.

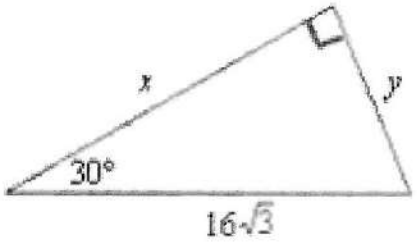


Not drawn to scale

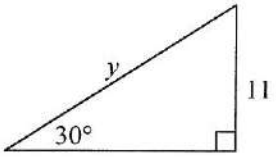
6. Quilt squares are cut on the diagonal to form triangular quilt pieces. The hypotenuse of the resulting triangles is 10 inches long. What is the side length of each piece?

Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.

7.



8.



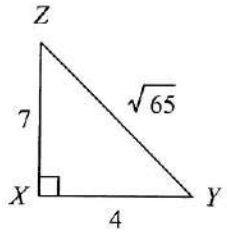
Not drawn to scale

9. A sign is in the shape of a rhombus with a 60° angle and sides of 12 cm long. Find its area to the nearest tenth.

10. Find the missing value to the nearest hundredth.

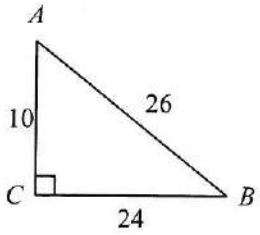
$\cos \blacksquare = \frac{2}{5}$

11. Write the tangent ratios for $\angle Y$ and $\angle Z$.



Not drawn to scale

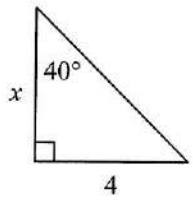
12. Write the ratios for $\sin A$ and $\cos A$.



Not drawn to scale

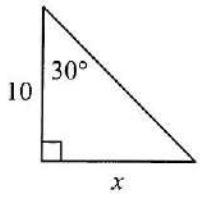
Use a trigonometric ratio to find the value of x. Round your answer to the nearest tenth.

13.



Not drawn to scale

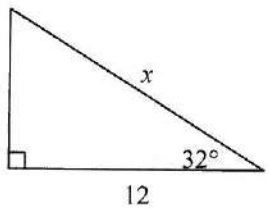
14.



Not drawn to scale

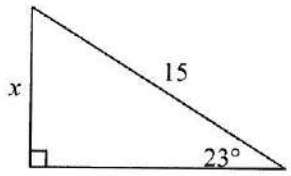
Find the value of x. Round to the nearest tenth.

15.



Not drawn to scale

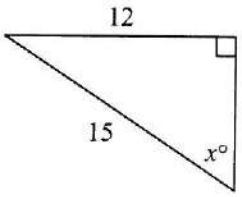
16.



Not drawn to scale

Find the value of x. Round to the nearest degree.

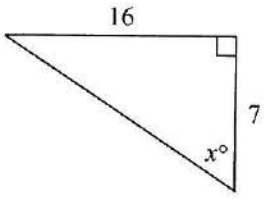
17.



Not drawn to scale

Find the value of x to the nearest degree.

18.

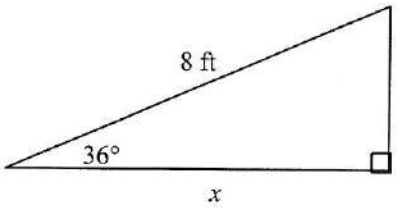


Not drawn to scale

19. Find the angle of elevation of the sun from the ground when a tree that is 10 yards tall casts a shadow 14 yards long. Round to the nearest degree.

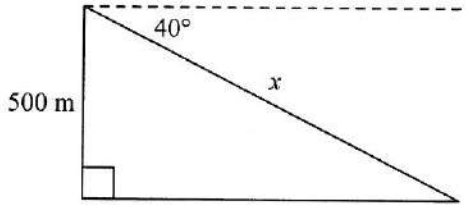
Find the value of x. Round the length to the nearest tenth.

20.



Not drawn to scale

21.



Not drawn to scale

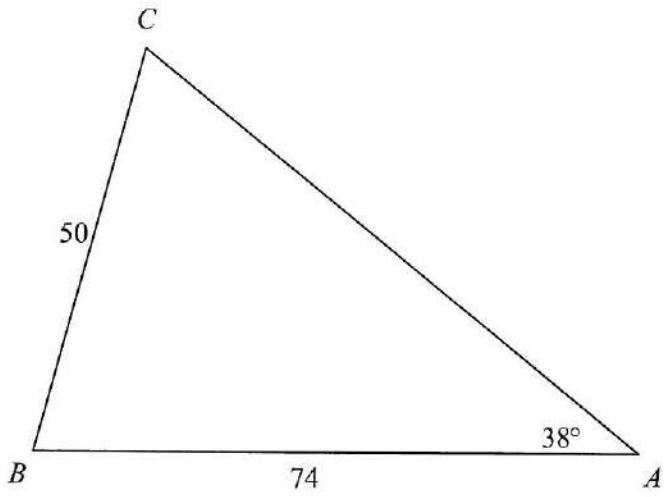
22. A spotlight is mounted on a wall 7.4 feet above a security desk in an office building. It is used to light an entrance door 9.3 feet from the desk. To the nearest degree, what is the angle of depression from the spotlight to the entrance door?

Use the Law of Sines to find the missing side of the triangle.

23. Find the measure of $\overline{AB}$ given $m\angle A = 55°$, $m\angle B = 44°$, and $b = 68$.

Use the Law of Sines to find the missing angle of the triangle.

24. Find $m\angle B$ to the nearest tenth.



25. Find $m\angle B$ given that $c = 83$, $a = 44$, and $m\angle A = 31$.

Use the Law of Cosines to find the missing angle.

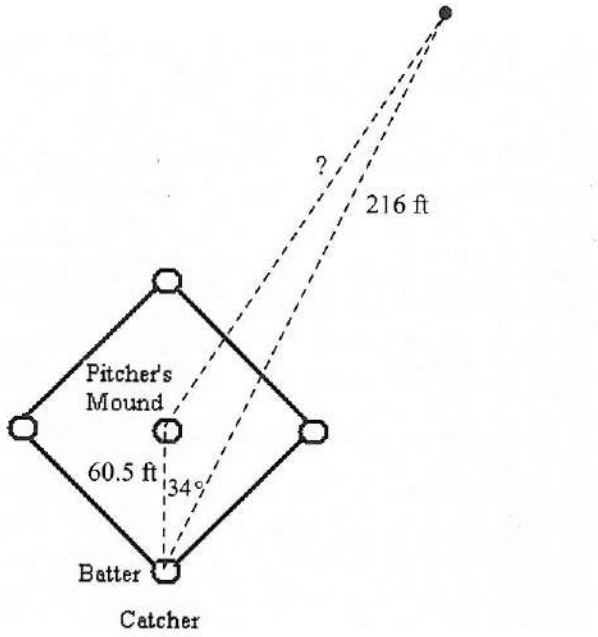
26. In ΔFGH, $g = 5$ ft, $h = 22$ ft, and $m\angle F = 50°$. Find the measure of f. Round your answer to the nearest whole number.

27. Find $m\angle B$, given $a = 11$, $b = 12$, and $c = 17$.

28. In ΔJKL, $j = 12$ cm, $k = 9$ cm, and $l = 9.75$ cm. Find $m\angle J$.

Use the Law of Cosines to solve the problem.

29. On a baseball field, the pitcher's mound is 60.5 feet from home plate. During practice, a batter hits a ball 216 feet deep. The path of the ball makes a 34° angle with the line connecting the pitcher and the catcher, to the right of the pitcher's mound. An outfielder catches the ball and throws it to the pitcher. How far does the outfielder throw the ball?



Pre-AP Geometry B Chapter 8 Test Review
Answer Section

1. 8
2. $2\sqrt{74}$ ft
3. yes; $24^2 + 143^2 = 145^2$
4. 6
5. $\frac{5\sqrt{2}}{2}$
6. $5\sqrt{2}$
7. $x = 24, y = 8\sqrt{3}$
8. $x = 11\sqrt{3}, y = 22$
9. 124.7 cm^2
10. 66.42°
11. $\tan Y = \frac{7}{4}$; $\tan Z = \frac{4}{7}$
12. $\sin A = \frac{24}{26}, \cos A = \frac{10}{26}$
13. 4.8
14. 5.8
15. 14.2
16. 5.9
17. 53
18. 66
19. 36°
20. 6.5 ft
21. 777.9 m
22. 39°
23. 96.68
24. 76.3°
25. 72.7°
26. 19
27. $m\angle B = 44.7°$
28. 79°
29. 169.3 ft