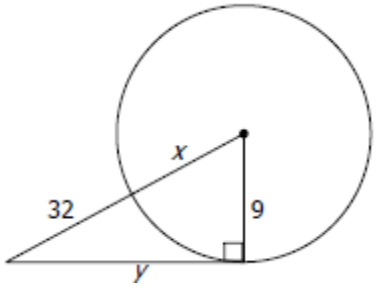
Mixed Review: **TRIGONOMETRY APPLICATION & RIGHT TRIANGLES**

NAME: _____ DATE: _____ PERIOD: _____

For # 1-8, solve for the indicated value(s), give answers in simplest radical form. Show your work to receive full credit.

1. x = _____ **The triangle below has a right an angle on the circle. Solve for x and y in the figure below.**

y = _____



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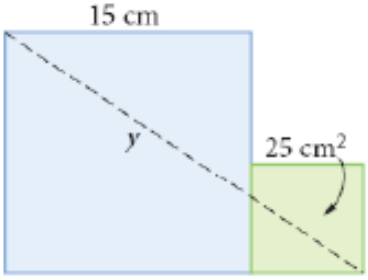
2. y = _____ **Both quadrilaterals below are squares. Find y.**



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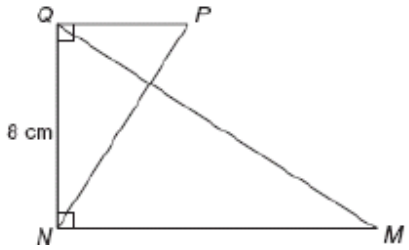
3. In the figure below, Δ QNM ~ ΔPQN. NM = 12 cm. What is the area of ΔPQN if the formula for a triangle is: $\frac{1}{2}bh$.

$A_{\Delta PQN}$ = _____



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4. A baseball diamond is a square 90 feet on a side. What is the distance from first base to third base (straight across the center)

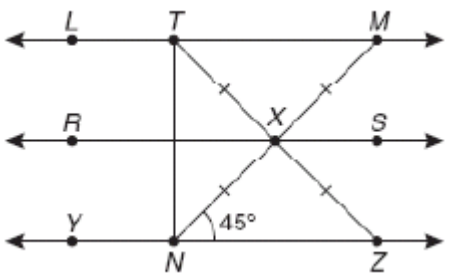
$D_{1st - 3rd}$ = _____

5. TN = _____

In the figure shown, MN = 10 cm. What is the length of segment TN?

$\overleftrightarrow{LM} \parallel \overleftrightarrow{RS} \parallel \overleftrightarrow{YZ}$

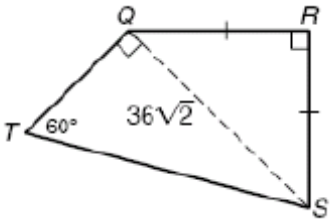
$\overline{TN} \perp \overline{YZ}$



6.

Find the perimeter of quadrilateral QRST.

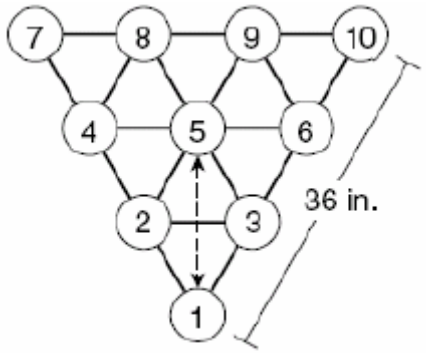
$P_{\square QRST}$ = _____



7.

In bowling, the pins are arranged in a pattern based on equilateral triangles. What is the distance between pins 1 and 5?

$D_{1st - 5th}$ = _____



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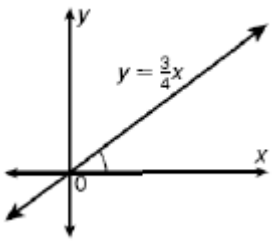
8. m∠ = _____°

Find the measure of the acute angle formed by the graph of $y = \frac{3}{4}x$ and the x - axis. Round to the nearest degree.

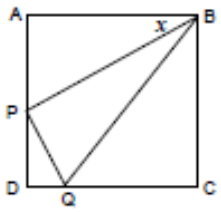


For # 9 - 12, use the diagram below to answer the indicated values. Quadrilateral ABCD is a square.

AP = 5 cm

QC = 7 cm

PB = 13 cm



9. m∠x = ____° Calculate the measure of the angle marked x.

10. AB = ____ Calculate the measure of AB.

11. DQ = ____ Calculate the measure of DQ.

12. Calculate the measure of ∠**BQC**

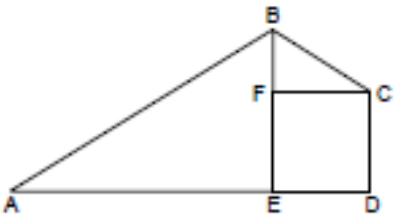
m∠BQC = ____°

For # 13 - 15, use the diagram below to answer the indicated values. Quadrilateral EFCD is a square.

EF = 4.7 cm

∠BCF = 36°

∠BAE = 28°



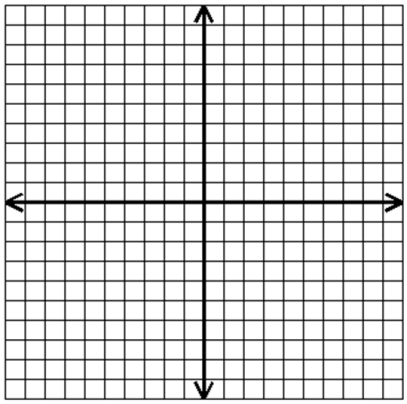
13. BF = ____ Calculate the measure of BF.

14. AB = ____ Calculate the measure of AB.

15. AD = ____ Calculate the measure of AD.

For # 16 and 17, use the coordinate plane to find the indicated values.

The coordinates of
the vertices of ΔRST are:
R (3, 3),
S (8, 3) and
T (8, - 6).



16. What is the measure of angle T to the nearest degree?

m∠T = ____°

17. What is the measure of angle R to the nearest degree?

m∠R = ____°

18. m∠ = ____° A radio tower 200 ft. high casts a shadow 75 ft. long. What is the angle of elevation of the sun?

19.

height = ____ Suppose a person whose eye level is 5 ft. off the ground and who is 20 ft. away from a flagpole has to look up at a 40° angle to see the top of the pole. How high is the flag pole?