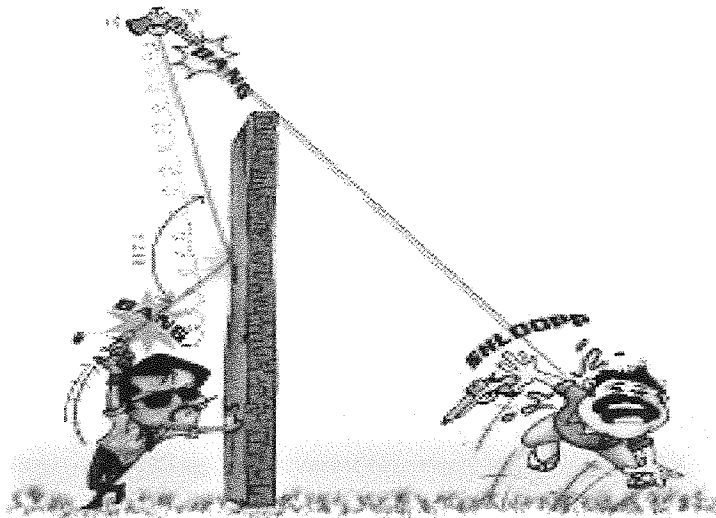


Geometry Packet 16: Trigonometry

Name _____

Date _____



Day	Homework (due next class unless otherwise stated)

- Use the Pythagorean Theorem to find the length of a right triangle
- Use Sin, Cos, and Tan ratios to find an unknown length
 - Standards 15.0, 18.0

Warm Ups

Circle M T W Th		
Circle M T W Th		
Circle M T W Th		

Warm Ups

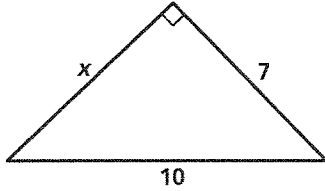
Circle M T W Th		
Circle M T W Th		
Circle M T W Th		

Practice 8-1

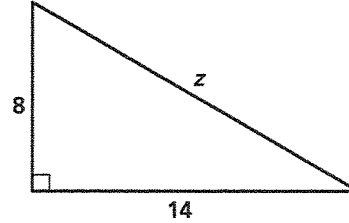
The Pythagorean Theorem and Its Converse

Find the value of each variable. Leave your answers in simplest radical form.

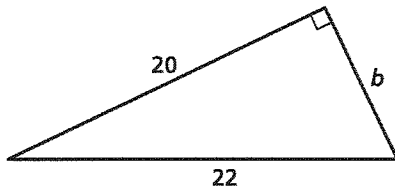
1. _____



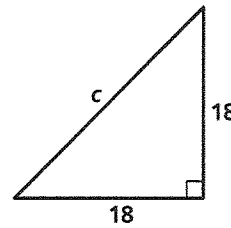
2. _____



3. _____

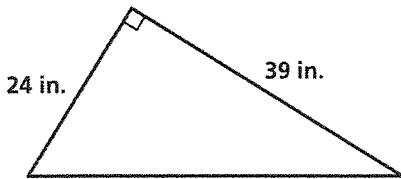


4. _____

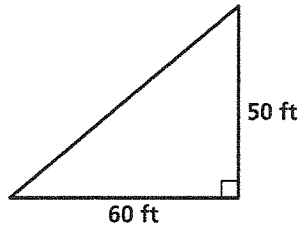


Find the length of each hypotenuse. Use your calculator, and round your answers to the nearest whole number.

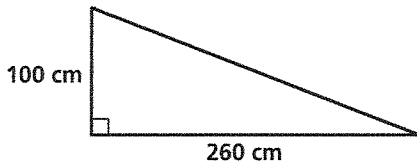
5. _____



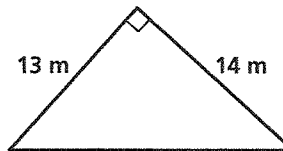
6. _____



7. _____



8. _____



The numbers represent the lengths of the sides of a triangle. Classify each triangle as *acute*, *obtuse*, or *right*.

9. 6, 9, 10 _____

10. 20, 100, 110 _____

11. 7, 24, 25 _____

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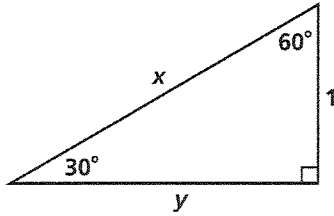
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Practice 8-2

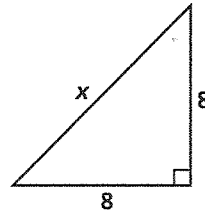
Special Right Triangles

Find the value of each variable. Leave your answers in simplest radical form.

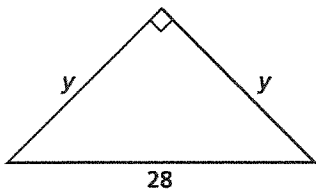
1. $x = \underline{\hspace{2cm}}$, $y = \underline{\hspace{2cm}}$



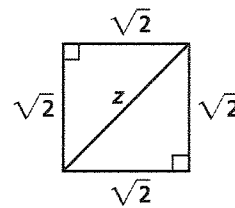
2. $x = \underline{\hspace{2cm}}$



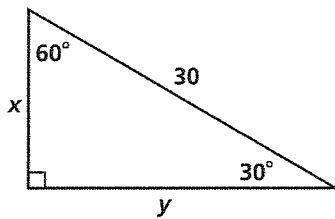
3. $y = \underline{\hspace{2cm}}$



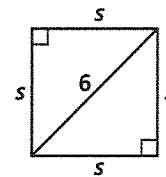
4. $z = \underline{\hspace{2cm}}$



5. $x = \underline{\hspace{2cm}}$, $y = \underline{\hspace{2cm}}$



6. $s = \underline{\hspace{2cm}}$

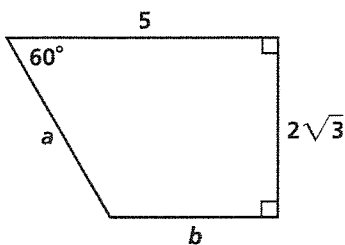


7. Find the length to the nearest centimeter of the diagonal of a square 30 cm on a side.

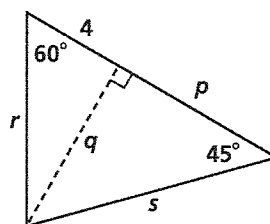
8. In a 30°-60°-90° triangle, the shorter leg is 6 ft long. Find the length to the nearest tenth of a foot of the other two sides.

Algebra Find the value of each variable. Leave your answers in simplest radical form.

9. $a = \underline{\hspace{2cm}}$, $b = \underline{\hspace{2cm}}$



10. $p = \underline{\hspace{2cm}}$, $q = \underline{\hspace{2cm}}$, $r = \underline{\hspace{2cm}}$, $s = \underline{\hspace{2cm}}$

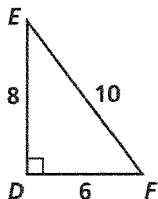


Practice 8-3

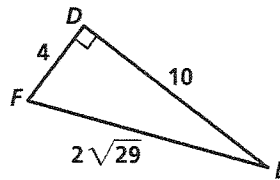
The Tangent Ratio

Write the tangent ratios for $\angle E$ and $\angle F$.

1. _____



2. _____



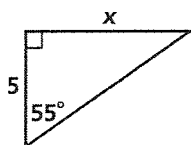
Find each missing value. Round your answers to the nearest tenth.

3. $\tan 46^\circ = \frac{?}{12}$

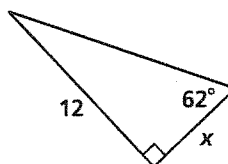
4. $\tan ? = \frac{3}{5}$

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

5. _____



6. _____



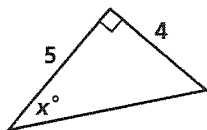
To the nearest tenth, find the measure of the acute angle that the given line forms with a horizontal line.

7. $y = \frac{1}{2}x + 4$

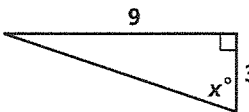
8. $y = 3x - 6$

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

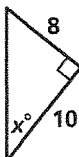
9. _____



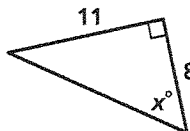
10. _____



11. _____



12. _____



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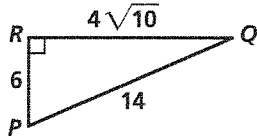
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Practice 8-4

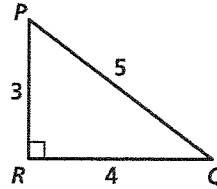
Sine and Cosine Ratios

Write the ratios for $\sin P$ and $\cos P$.

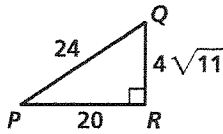
1. _____



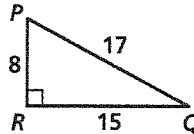
2. _____



3. _____



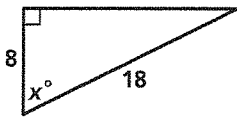
4. _____



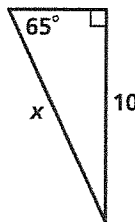
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Find the value of x . Round lengths of segments to the nearest tenth and angle measures to the nearest degree.

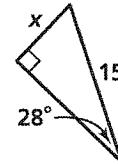
5. _____



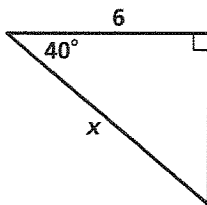
6. _____



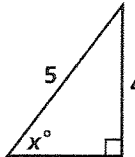
7. _____



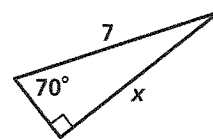
8. _____



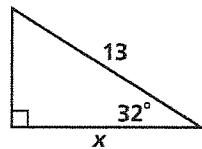
9. _____



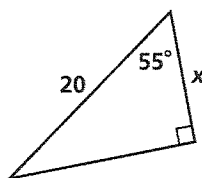
10. _____



11. _____



12. _____

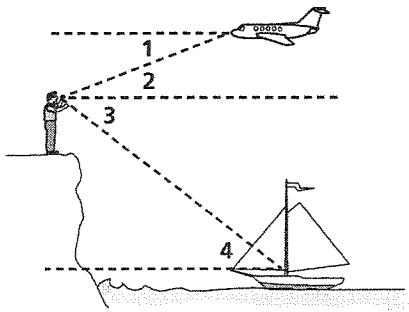


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Practice 8-5

Angles of Elevation and Depression

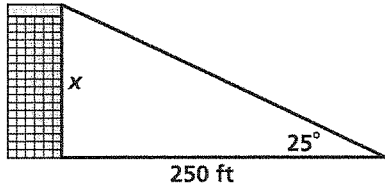
1. Describe each angle as it relates to the diagram.



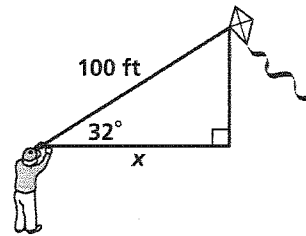
- a. $\angle 1$ _____
- b. $\angle 2$ _____
- c. $\angle 3$ _____
- d. $\angle 4$ _____

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

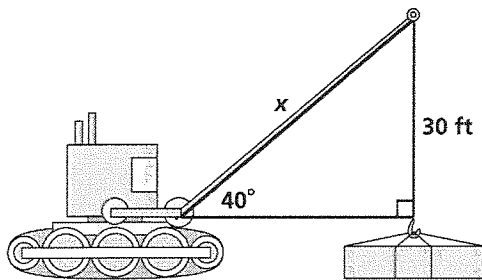
2. _____



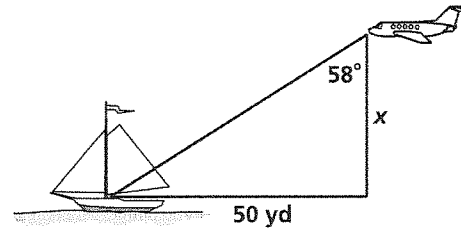
3. _____



4. _____

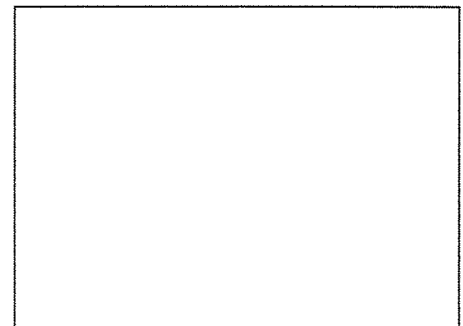


5. _____



6. A person standing 30 ft from a flagpole can see the top of the pole at a 35° angle of elevation.

- a. Draw a diagram.
- b. The person's eye level is 5 ft from the ground. Find the height of the flagpole to the nearest foot.



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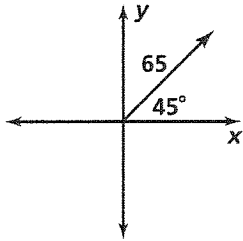
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Practice 8-6

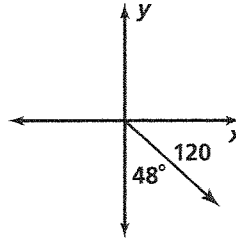
Vectors

Describe each vector as an ordered pair. Give the coordinates to the nearest tenth.

1. _____

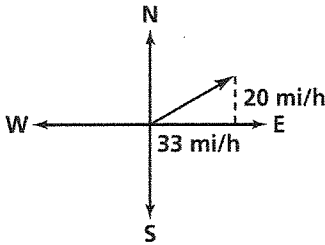


2. _____

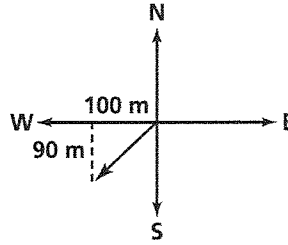


Find the magnitude and direction of each vector. Round your answers to the nearest tenth.

3. _____

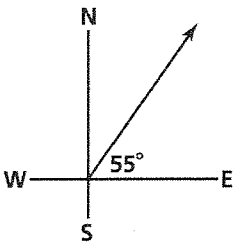


4. _____

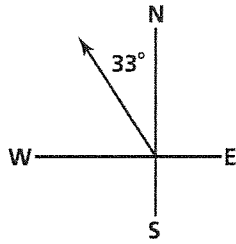


Use compass directions to describe the direction of each vector.

5. _____

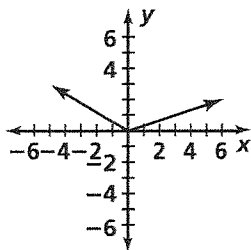


6. _____

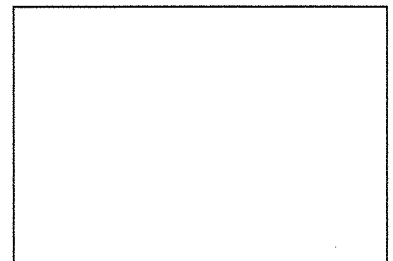
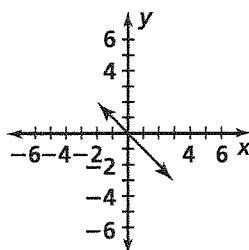


For Exercises 7–8, (a) write the resultant as an ordered pair, and (b) draw the resultant.

7. _____



8. _____



9. Sketch a vector that has the direction 48° south of east.