Geometry
Unit 5 Review

Pythagorean Theorem

Find the value of $x$. Leave answers in simplest radical form.

4) Find the length of each segment. Leave answers in simplest radical form.

7) A diagonal of a rectangle with width 7 cm and length 24 cm

8) A diagonal of a square with side of length 12

9) The altitude to the base of an isosceles triangle with legs of length 12 and perimeter 40
Find the value of each variable. Leave answers in simplest radical form.

10) \hspace{1cm} 11) \hspace{1cm} 12) \hspace{1cm} 13)

14) The acute angles of a right triangle are congruent and one of the congruent sides has length 15. How long is the third side?

15) The measures of each base angle of an isosceles triangle is 30, and each of the two congruent sides has length 14. How long is the base?
16) In $\triangle ABC$, $\angle A$ is a right angle and $m \angle B = m \angle C = 45$. Given that $BC = 6$, find $AB$.

17) The altitude of an equilateral triangle is 15. Find the perimeter of the triangle.

18) Find the perimeter of an isosceles right triangle with an 8-cm hypotenuse.

19) The vertices of a triangle are $A(4, 11)$, $B(-3, -2)$, and $C(8, -4)$.
   a. Find the distance from $A$ to $B$.

   b. Find $BC$.

   c. Find the third side length of $\triangle ABC$. 
d. Find the perimeter of $\triangle ABC$ rounded to the nearest thousandth.


e. Is $\triangle ABC$ equilateral, isosceles, or scalene? Explain your answer using complete sentences and definitions.

f. Find the slope of each side of $\triangle ABC$ (label and show all work).

Slope

20) The base of a 13-foot-long ramp is 12 feet from the wall. Find the slope of the ramp.