Chapter 9 Review 2

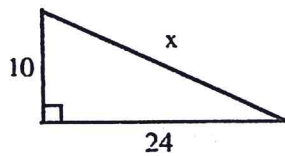|	
1) A prince leaned a 30-foot ladder against a castle wall. The base of the ladder was 10 feet away from the wall to avoid the moat. The princess's window is 25 feet above the moat. Will the ladder reach the princess? (sketch and label)	2) The area of a right triangle is 36 square feet. The base is twice the height. Draw and label a triangle that fits this description.

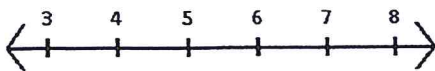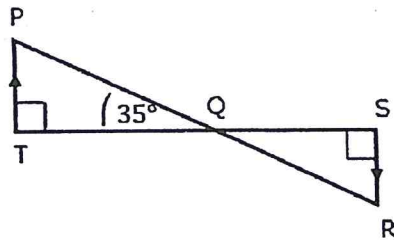|		
3) Solve for x using the Pythagorean Theorem. 10 ⟋ x ⟍ 24	4) What is the longest line you can draw on an 8.5 x 11 piece of paper? Prove it.	5) Describe the association between the temperature and beach visitors. Think direction, form, strength, outliers. **Beach Visitors** Visitors: 600, 500, 400, 300, 200, 100, 0 Average Daily Temperature (°F): 80, 85, 90, 95
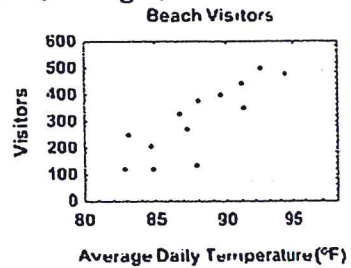
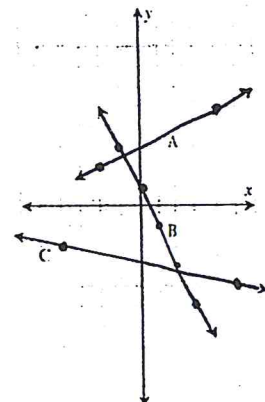|		
6) Plot the following on a number line: $(-2)^2$, $\sqrt{52}$, 2π 3 4 5 6 7 8	7) Find angle R. P, $35°$, Q, S, T, R	8) Three lines are graphed below: line A, line B and line C. What is the slope of each line? A: _____ B: _____ C: _____

9) Two companies offer different rental packages for personal water craft (jet skis). The first company, JetSkis, requires a deposit of $135 and charges $50 per day. The second company, Better Jetter, requires a deposit of $285 and charges $25 per day. Is there a point where the costs are the same? Explain. Which is a better deal? Why? Explain completely. *But first, define your variables and write an equation for each.*

<u>JetSkis</u>   let x =_____ let y =_____ m=_____ b=_____ equation: _____

<u>Better Jetter</u>   let x =_____ let y =_____ m=_____ b=_____ equation: _____

For each figure, find the missing angles. Show all work. Then, list the conjectures you used to find x and y. (ex. Supplementary angles equal 180°)

10)

125°

11)

70°

x y

12)

x

125°

18°

y
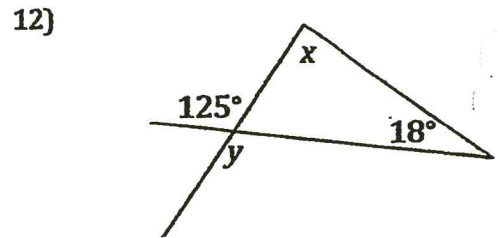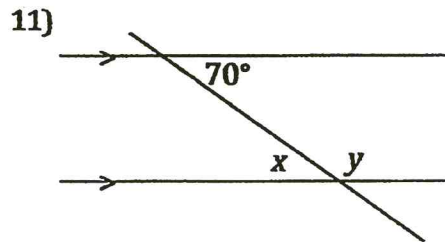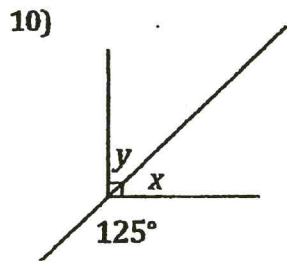
Combine like terms to simplify each expression.

13) $3xy + 4 - x - y + 2 + y + 5$

14) $2y + 1 - xy - y + 2xy - 10 - x - 3x$
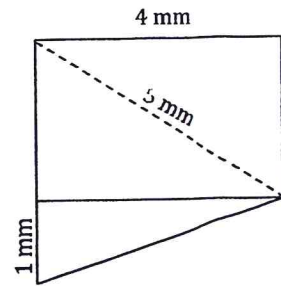
Solve each equation. Show all steps.

15) $3(x - 20) = 1$

16) $3(x + 5) - 2(x - 1) = 4$

Chapter 9 Review 3

1) The longest side of a triangle is double the shortest side. The other side is 3 cm longer that the shortest side. The perimeter is 23 cm. Write and solve and equation to find dimensions of all side. (5D proce~s)	2) Find the area of the complex figure.

2) Find the area of the complex figure.
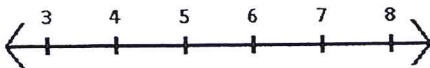
4 mm

5 mm

1 mm

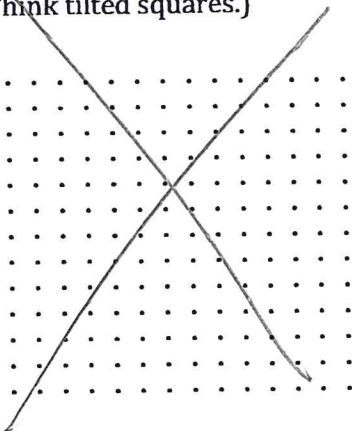| 3) Find the distance of the diagonal line between the ordered pairs (-3, 2) and (1, 5). *Plot the points if you need to!*	4) Three straws measure 9', 15' and 12 ft. If they touch at the ends only, can they make a right triangle? Prove it.	5) Define the term irrational number and give three examples.

| 6) Plot the following on a number line: $(2.5)^2$, $\sqrt{49}$, $\frac{6}{3}\pi$	7) Draw and label a square with the area of 53 square units. (Think tilted squares.)	8) Solve for x if the perimeter is equal to 39 units.

6) Plot the following on a number line: $(2.5)^2$, $\sqrt{49}$, $\frac{6}{3}\pi$

3   4   5   6   7   8

8)

11

3x

x
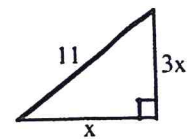
9) Three points are named on the line at the right.

a. Find three more points that lie on the line to the right. Show or explain how you found your answer.
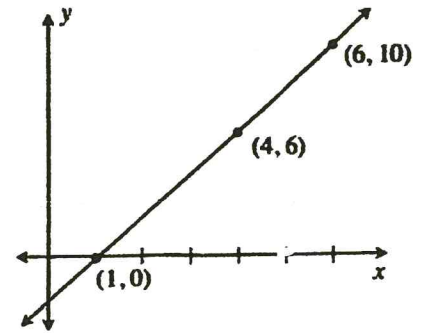
b. Find a rule for your line.

(6, 10)
(4, 6)
(1, 0)

10) Each pair of figures below is similar. Find the Scale Factor. Calculate the length of the unknown sides. Show work.

a.

A
16 m
18 m
org
B   x   C

D
8 m
y
E 4 m F
new

b.

A
9 m
15 m
org
B 16 m C

D
x
y
new
E   32 m   F
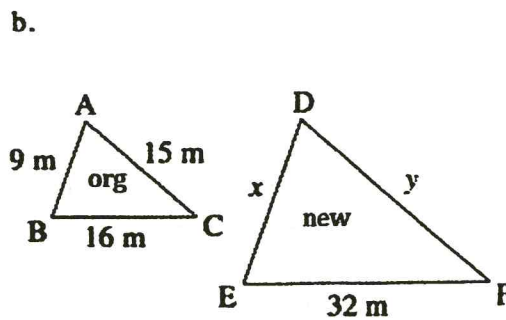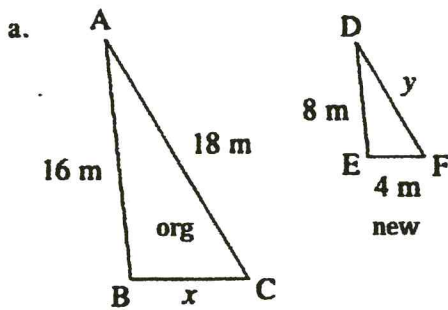
Solve each equation. Show all steps.

11) $21y = -2(1 - 10y)$

12) $-4(3 + x) = 8$

13) $\dfrac{x+4}{12} = \dfrac{10-x}{9}$

13) Find the <u>perimeter</u> and <u>area</u> to this complex figure. Label all missing dimensions. Be organized.

20 inches
5 in
13 inches
4 in