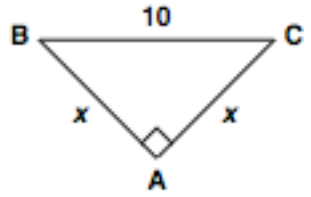
Good luck to: _____ Block: A2 A3 A4 B2 B3 B4 Date: _____ ID: A

Geometry Test 12 Mr. Holcomb 2008/2009
M&M's or Skittles?

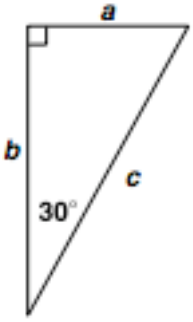
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. (2 points) What is the value of x in the triangle below?



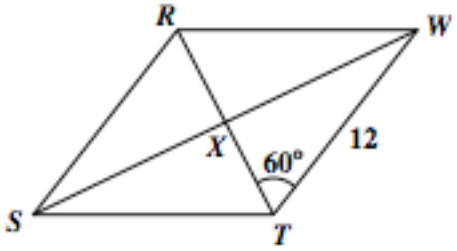
a. $10\sqrt{3}$
b. 20
c. 5
d. $5\sqrt{2}$

____ 2. (2 points) If $a = 3\sqrt{3}$ in the right triangle below, what is the value of b?



a. 18
b. $6\sqrt{3}$
c. $12\sqrt{3}$
d. 9

____ 3. (2 points) If $RSTW$ is a rhombus, what is the area of ΔWXT?



a. $18\sqrt{3}$
b. 36
c. 48
d. $36\sqrt{3}$

Name: _____ **ID: A**

Express all answers as exact values, simplfied.

4. (6 points) Determine if a triangle with the given length sides will be a 45-45-90, a 30-60-90, or neither.

$\sqrt{4}, 2\sqrt{4}, 2\sqrt{3}$	$5, 5, 10$
$3, 3, 3\sqrt{2}$	$2, \sqrt{2}, \sqrt{2}$
$4\sqrt{3}, 2\sqrt{3}, 6$	$9, 12, 18$

5. (5 points) The diagonal of a square has a length of $5\sqrt{2}$. What is the area of the square?

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6. (6 points) Find the lengths of the hypotenuse of an isosceles right triangle whose legs have the given length.

a. 9 b. $5\sqrt{2}$ c. $2\sqrt{8}$

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7. (6 points) Find the lengths of one leg of an isosceles right triangle whose hypotenuse has the given length.

a. $8\sqrt{2}$ b. 14 c. $\frac{\sqrt{6}}{3}$

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8. (5 points) The length of the altitude of an equilateral triangle is 8. What is the area of the triangle?

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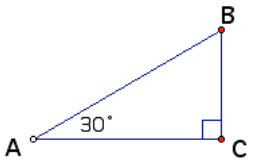
9. (8 points) Complete.

	a.	b.	c.	d.
BC	2			
AB		6		$\sqrt{3}$
AC			$6\sqrt{3}$	



10. (5 points) Each diagonal of a rectangle is 1 meter longer than the length of the rectangle. If the width is 5 meters, find the perimeter of the rectangle.

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11. (15 points) Solve each of the following by completing the square. Justify with clear and complete work.

a. $x^2 + 8x + 4 = -3$

b. $x^2 - 6x + 4 = 19$

b. $2x^2 + 20x + 16 = 6$