

IM 2 Ch. 4 Review#2

NAME:

Check Problems
1, 2, 3, 4

$(10x + 7)$
$10(7x + 9)$
$(x - 15)$
$4(x^2 + 7x - 2)$
$(x + 4)$
$3x(x + 9)(x + 6)$
$(x + 2)$
$2x(2x + 1)(2x - 3)$
$(3x + 1)$
$5x(2x + 3)$
$(3x - 2)$
$9x(x^2 + 3x - 1)$
$(3x + 1)$
$(10x - 7)$
$\frac{d}{g}$
$\frac{d}{o}$
$\frac{d}{o}$

1. Factor each quadratic expression using a generic rectangle and a diamond problem. Clearly show all steps.
- a) $x^2 - 13x - 30$ b) $3x^2 + 10x - 8$ c) $100x^2 - 49$ d) $9x^2 + 6x + 1$

2. Factor each expression using the GCF (Greatest Common Factor.)
- a) $70x + 90$ b) $10x^2 + 15x$ c) $9x^3 + 27x^2 - 9x$ d) $4x^2 + 28x - 8$

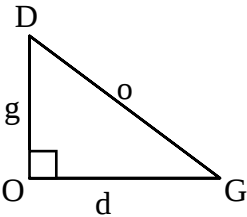
3. Completely factor the given expression using the GCF and then a generic rectangle & diamond problem. Clearly show all steps.

a) $3x^3 + 45x^2 + 162x = \underline{\hspace{1cm}}(\hspace{1cm}) = \underline{\hspace{1cm}}(\hspace{1cm})(\hspace{1cm})$

b) $8x^3 - 8x^2 - 6x = \underline{\hspace{1cm}}(\hspace{1cm}) = \underline{\hspace{1cm}}(\hspace{1cm})(\hspace{1cm})$

4. Write the ratios for $\triangle ABC$ using the letters a, b, and c.

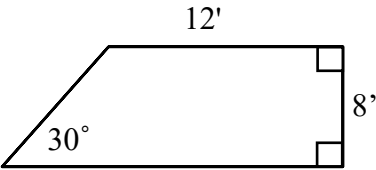
a) $\tan \angle D =$ b) $\cos \angle G =$ c) $\sin \angle D =$



5. Solve each **system of equations** for x and y. Show work and express your solution as an ordered pair (x, y).

a) $y = 5x + 2$ $y = 2x - 4$	$(\hspace{1cm}, \hspace{1cm})$ pt. of intersection	b) $x = 3y - 2$ $3x - 2y = 15$	$(\hspace{1cm}, \hspace{1cm})$ pt. of intersection	c) $2x + y = 2$ $3x + 3y = 12$	$(\hspace{1cm}, \hspace{1cm})$ pt. of intersection
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6. Find the **height**, **perimeter** and **area** of this trapezoid. Show all work!

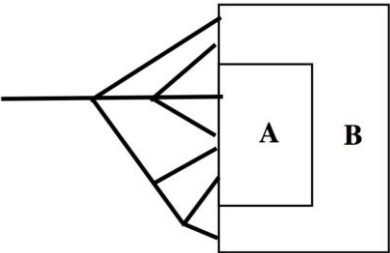


Height: _____
Perimeter: _____
Area: _____

Check
#5, 6, & 7

-2	-2
7	-8
6	3
8	151.43
61.86	
19	17
36	36

7. In which room should you place the cheese so that Romeo will have the best chance of finding the cheese? Justify your answer by giving the probabilities of wandering into each room.



P(Room A) = _____ P(Room B) = _____

8. Write an equation and solve for the missing variable(s) in each right triangle. Show your work and round lengths to the nearest hundredth.

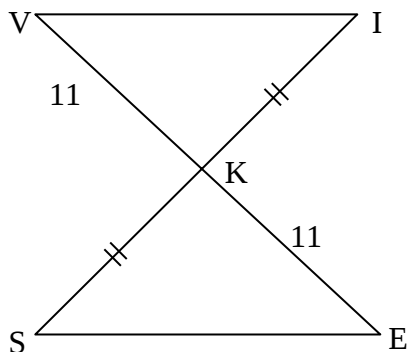
a.	b.	c.	d.	e.
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9. Find the missing side in each problem. Show your work.

a.	b.
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10. Prove the following using a flowchart. Make sure to include all of your reasons to support your statements. Mark the congruent parts in the figure.

Given the figure below, prove that $\overline{VI} \cong \overline{SE}$.



Check #8, 9, 11

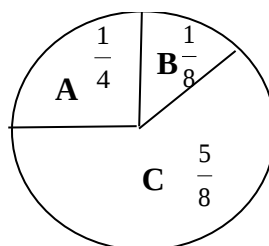
$\frac{5}{6}$	$\frac{1}{6}$
381.17	
21	
391.20	
58.21	
52.13	
1.49	
36.72	
$\frac{25}{6}$ or 4.17	

11. Suppose you spin both spinners once. If the letters on both spins match, then you win.

a) What is the probability that you will win? Show work

b) What is the probability that you will lose? Show work.

Spinner 1



Spinner 2

