

IM 2 Chapter 1 Review Name _____ Per _____

1. For each of the following figures, express the area as both a sum and a product.

a)

4x

7

2x

=

Area as a product

=

Area as a sum

b)

+2

x

3x

-5

=

Area as a product

=

Area as a sum

c)

+3

5x

2x

-6

=

Area as a product

=

Area as a sum

d)

2

-3x

+7y

+4

3x

=

Area as a product

=

Area as a sum

2. Plot the points A(3, -1), B(6, -3), and C(4, -4).

a) Reflect $\triangle ABC$ across the y-axis and draw $\triangle A'B'C'$. What are the new vertices?

b) Rotate $\triangle ABC$ 270° around the origin clockwise and draw $\triangle A''B''C''$. What are the new vertices?

c) Translate $\triangle ABC$ and draw $\triangle A'''B'''C'''$ so that the coordinates of C''' are (-4, 1). What are the other two new vertices?

a. A' _____
B' _____
C' _____

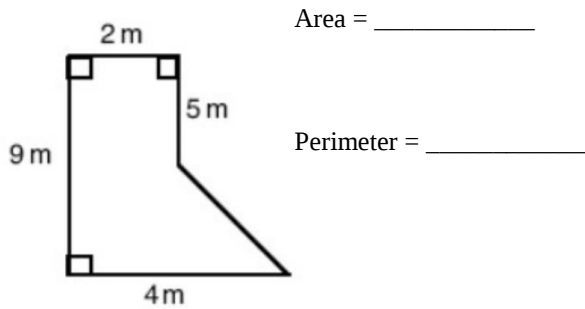
b. A'' _____
B'' _____
C'' _____

c. A''' _____
B''' _____
C''' (-4, 1)

Check Your Answers:

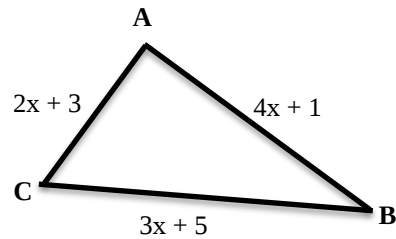
$(x+2)(3x-5)=3x^2+x-10$	$(5x+3)(2x-6)=10x^2-24x-18$	$(3x+4)(2-3x+7y)=-9x^2+21xy-6x+28y+8$
$(-6, -3) \quad (-5, 4) \quad (-4, -4) \quad (-4, 1) \quad (-3, -1) \quad (-2, 2) \quad (1, 3) \quad (3, 6) \quad (4, 4)$		$2x(4x+7)=8x^2+14x$

4. Find the area and perimeter of this figure. Show your dissections and any sub problems you use.



5. The perimeter of the triangle at right is 36 cm.

a. Write an equation and solve for x . $x = \underline{\hspace{2cm}}$



- b. What are the lengths of the sides of the triangle?

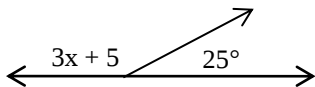
AB: _____ BC: _____ CA: _____

- c. What kind of triangle is this? Explain.

This is a(n) _____ because _____

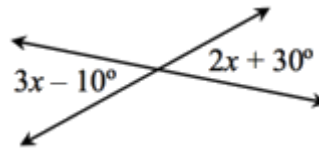
#6-11: To “**Justify an answer**” means to write down the ***reason*** that your equation must be true.

6. Solve for x . Justify your answer:



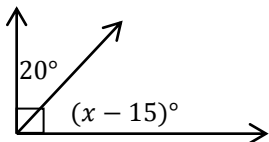
$x = \underline{\hspace{1cm}}$ Reason: _____

7. Solve for x . Justify your answer:



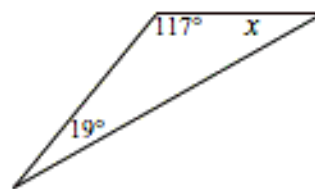
$x = \underline{\hspace{1cm}}$ Reason: _____

8. Find the value of x in the figure below. Justify your answer.



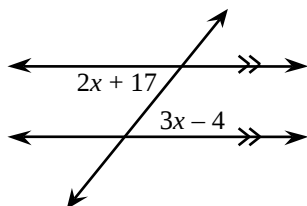
$x = \underline{\hspace{1cm}}$ Reason: _____

9. Find the value of x in the triangle below. Justify your answer.



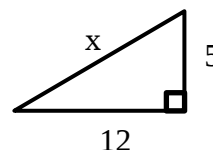
$x = \underline{\hspace{1cm}}$ Reason: _____

10. Find the value of x . Justify your answer.



$x = \underline{\hspace{1cm}}$ Reason: _____

11. Find the value of x . Justify your answer.



$x = \underline{\hspace{1cm}}$ Reason: _____

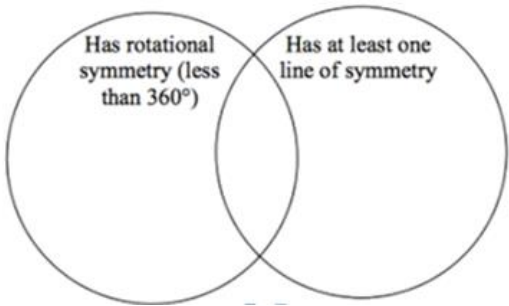
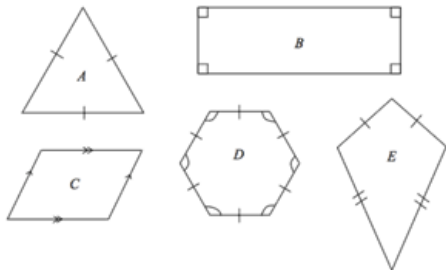
Check Solutions:

$x = 85$ The angles are complementary	$x = 50$ Linear pair is supplementary	$x = 21$ Alternate Interior Angles are Congruent
$x = 13$ Pythagorean Theorem	$x = 44$ Triangle angle sum theorem	$x = 40$ Vertical angles are congruent
$x = 3$	9, 13, and 14	The triangle is scalene because all sides are of different length.
	$22m^2$	$20 + 2\sqrt{5} \approx 24.47m$
		$(2x + 3) + (4x + 1) + (3x + 5) = 36$

11. If the two given lengths are sides of a triangle, determine the range of possible values for the third side.

9 and 14 Third side must be longer than _____ and shorter than _____

12. Based on the markings, name each shape listed below. Be as specific as possible. Then place each shape in the appropriate places in the Venn diagram at the right.



A- _____ B- _____ C- _____ D- _____ E- _____

Check Answers:

Kite	Rectangle	Parallelogram
Regular Hexagon	23 and 5	Equilateral Triangle