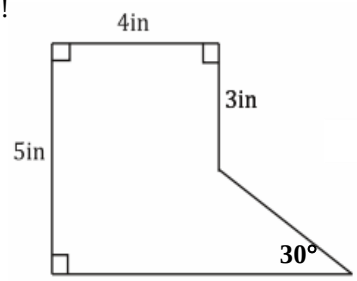
IM 2 - Chapter 6 Review#2 **NAME:_____Period: ____**

NO Calculator!!

Give all answers in exact form. Simplify and reduce all answers if possible.

1. Find the **perimeter** and **area** of this figure. Show all work in an organized manner!



Perimeter = _____ Area = _____

CHECK #1-3

-1
2x
(2x + 9)
(2x +11)
(2x – 9)
(3x – 1)
(x – 3)
(x – 5)
(x – 9)
(x + 5)
(x + 5)
-15 – 8i
-4 – 2i
-3 + 8i
5 + 12i
$20+2\sqrt{3}$
$20+2\sqrt{3}$

2. Factor each of the following completely. Consider using any of the following methods: generic rectangles, greatest common factor, FOIL, and difference of squares.

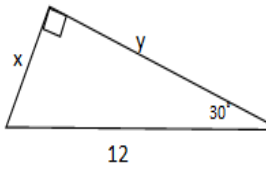
a) $4x^2-81$ b) $4x^2+22x$ c) $x^2-12x+27$ d) $3x^2+14x-5$ e) x^2-25

3. Simplify each of the following expressions. Show work. →Reminder: i^2 = ____

a) $(4+5i)-(7-3i)$ b) $(1-4i)^2$ c) $(3i)^2+5-2i$ d) $(3+2i)^2$

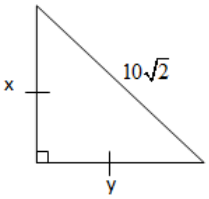
4. Find the missing side lengths in the 30°- 60°- 90° and 45°- 45°- 90° triangles. **Leave answers in EXACT form.**

a)



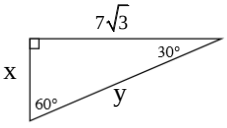
x = _____ y = _____

b)



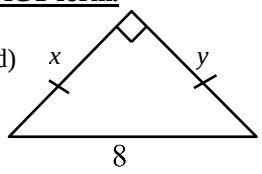
x = _____ y = _____

c)



x = _____ y = _____

d)



x = _____ y = _____

Solve the quadratic equations listed below using the specified method. Simplify and reduce all answers.

5. Factor/ Zero Product Property

$5x^2-8x-4=0$

6. Completing the Square

$x^2+6x+3=0$

7. Quadratic Formula

$x^2-5x-5=0$

CHECK #4-7: $-\frac{2}{5}$ $4\sqrt{2}$ $4\sqrt{2}$ $6\sqrt{3}$ $\frac{5\pm3\sqrt{5}}{2}$ $-3\pm\sqrt{6}$ 2 6 7 10 10 14

8. Match each expression below with an equivalent expression from the right. Write the correct letter in the given blank.

_____I. $\frac{1}{x^2}$	A. $x^{\frac{3}{2}}$ D. $x^{\frac{5}{4}}$
_____II. $4x^{-2}$	B. $x^{\frac{2}{3}}$ E. $\frac{4}{x^2}$
_____III. $\sqrt{x^3}$	C. x^{-2} F. $x^{\frac{1}{3}}$
_____IV. $\sqrt[3]{x}$	
_____V. $\sqrt[4]{x^5}$	

9. Simplify. Leave answers in exact form. Don't forget to simplify radicals and rationalize the denominator.

a) $4\sqrt{27}$ b) $\frac{12}{\sqrt{3}}$ c) $\frac{\sqrt{3}}{\sqrt{8}}$ d) $3\sqrt{50}$

10. Simplify each of the following:

a) $25^{\frac{1}{2}}$ b) $9^{\frac{3}{2}}$ c) $8^{-\frac{1}{3}}$ d) $32^{\frac{3}{5}}$ e) $16^{-\frac{1}{2}}$

11. Simplify each of the following. Give all answers with positive exponents.

a. $-8x^3\left(-4x^2\right)$ b. $(5x)(2x)^3$ c. $\left(5x^6y^4\right)^2$ d. $5x^0$

e. $\frac{2x^8y^5}{10x^4y^{-3}}$ f. $\frac{12x^0}{3x^{-2}}$ g. $2xy^5\cdot 3x^2$ h. $\frac{12x^{-2}}{3x}$

CHECK ANSWERS#8-11: $\frac{1}{5}x^4y^8$ $\frac{4}{x^3}$ $4x^2$ $6x^3y^5$ $25x^{12}y^8$ $32x^5$ $40x^4$

$\frac{1}{4}$ $\frac{1}{2}$ $4\sqrt{3}$ 5 5 $\frac{\sqrt{6}}{4}$ 8 $12\sqrt{3}$ $15\sqrt{2}$ 27 A C D E F