Name:_____ Date:_____

Pre Calculus 11: HW Section 7.1 Evaluating Absolute Value Expressions

1. Evaluate each of the following:

a) $\lvert -22 \rvert$	b) $\lvert 17-28 \rvert$	c) $\lvert -(-3\times 20) \rvert$
d) $\lvert -(23-44) \rvert$	e) $-\lvert -(-41+12) \rvert$	f) $-\lvert 7-\lvert 3-18 \rvert \rvert$
g) $\lvert (30-35)+(18-26) \rvert$	h) $\lvert 14-21 \rvert - 9\lvert 5-11 \rvert$	i) $-\lvert -5(5-11) \rvert$
j) $\frac{\lvert -24 \rvert}{-\lvert -4 \rvert}$	k) $3\lvert 11-3\lvert -6 \rvert \rvert$	L) $-(23-18)^2-\lvert -4-8 \rvert^3$
m) $\frac{\lvert -24 \rvert}{\lvert -34 \rvert - \lvert -4 \rvert}$	n) $\frac{\lvert -8 \rvert + \lvert -5 \rvert}{\lvert -8 \rvert - \lvert -5 \rvert}$	o) $\frac{\lvert 12 \rvert + \lvert -8 \rvert}{\lvert -14 \rvert - \lvert -4 \rvert}$
p) $\sqrt{(-15)^2}$	q) $\sqrt{223^2}$	r) $\sqrt{(-2a^3b)^2}$

2. Arrange each of the following from least to greatest:

I) $|-12|$ II) $-|-3\times 4|$ III) $|-8-3|$ IV) $2|2-7|$ V) $-|8-2|^2$

3. If $a=b-1$, then what is the value of $|a-b|+|b-a|$?

4. If $\sqrt{a^2}=13$, then what is the value of "a"?

5. Given the statements below, which of them can not be correct? Explain why:

a. $|a+b|=-5$ b) $-|2a|=6$

c. $\sqrt{(2a)^2}=|2a|$ d) $|a-b|=|b-a|$

6. If $(a-b)^2 = 289$ and $(a+b)^2 = 169$, then what is the value of $|4ab|$?

7. The shortest distance between any point P(m,n) and a line with equation $Ax + By + C = 0$ is given by the formula: $D = \dfrac{|Am + Bn + C|}{\sqrt{A^2 + B^2}}$. Suppose you have a line $-3x + 4y - 8 = 0$ and a point P(1,5), what is the shortest distance from the point to the line?