Name:_____   Date:_____

Pre Calculus 11: HW Section 7.1 Evaluating Absolute Value Expressions

1. Evaluate each of the following:

a) $\left\|-22\right\|$	b) $\left\|17-28\right\|$	c) $\left\|-(-3\times20)\right\|$
d) $\left\|-(23-44)\right\|$	e) $-\left\|-(-41+12)\right\|$	f) $-\left\|7-\left\|3-18\right\|\right\|$
g) $\left\|(30-35)+(18-26)\right\|$	h) $\left\|14-21\right\|-9\left\|5-11\right\|$	i) $-\left\|-5(5-11)\right\|$
j) $\dfrac{\left\|-24\right\|}{-\left\|-4\right\|}$	k) $3\left\|11-3\left\|-6\right\|\right\|$	L) $-(23-18)^2-\left\|-4-8\right\|^3$
m) $\dfrac{\left\|-24\right\|}{\left\|-34\right\|-\left\|-4\right\|}$	n) $\dfrac{\left\|-8\right\|+\left\|-5\right\|}{\left\|-8\right\|-\left\|-5\right\|}$	o) $\dfrac{\left\|12\right\|+\left\|-8\right\|}{\left\|-14\right\|-\left\|-4\right\|}$
p) $\sqrt{(-15)^2}$	q) $\sqrt{223^2}$	r) $\sqrt{(-2a^3b)^2}$

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

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

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

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

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

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?