

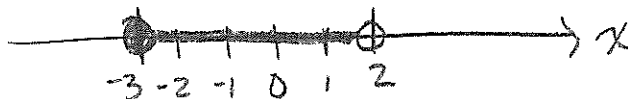
Name: Key  
Math 121 College Algebra – Crawford

Quiz 1-A(1)  
08 February 2017

Books and notes (in any form) and calculators are not allowed. *Show all work for full credit.* Good Luck!

1. (2 pts) Sketch the following interval on the real number line.

$[-3, 2)$



2. (2 pts) Evaluate the following expression.

$$2 - 2|-3| = 2 - 2(3)$$

$$= 2 - 6$$

$$= \boxed{-4}$$

3. (7 pts) Rewrite the following expressions with positive exponents only and simplify.

$$(a) \left( \frac{x^{-2}y^3}{2x} \right)^{-2} = \left( \frac{2x}{x^{-2}y^3} \right)^2 = \frac{2^2 x^2}{x^{-4} y^6} = \frac{4x^2 \cdot x^4}{y^6} = \boxed{\frac{4x^6}{y^6}}$$

$$(b) a^{-2} \cdot a^{3/2} \cdot a = a^{-2 + \frac{3}{2} + 1} = a^{-\frac{4}{2} + \frac{3}{2} + \frac{2}{2}} = \boxed{a^{\frac{1}{2}}}$$

4. (4 pts) Simplify the radical expression.

(Assume positive variables)

$$\begin{aligned} \sqrt{18x^3y^6} &= \sqrt{9 \cdot 2 \cdot x^2 \cdot x \cdot (y^3)^2} \\ &= 3\sqrt{2} x \sqrt{x} y^3 \\ &= \boxed{3xy^3\sqrt{2x}} \end{aligned}$$