

Name: Key

Math 121 College Algebra - Crawford

Quiz 1-B(2)
08 February 2017

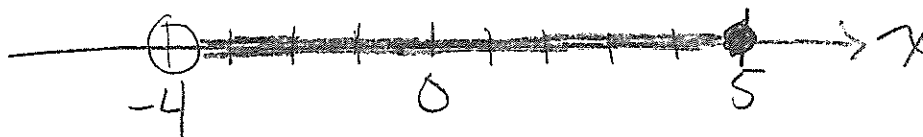
Books and notes (in any form) and calculators are not allowed. *Show all work for full credit.* Good Luck!

1. (2 pts) Evaluate the following expression.

$$3 - 3|-2| = 3 - 3(2) = 3 - 6 = \boxed{-3}$$

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

$(-4, 5]$



3. (4 pts) Simplify the radical expression.

Assume positive variables

$$\sqrt{32x^4y^3} = \sqrt{16 \cdot 2 (x^2)^2 y^2 y}$$

$$= 4\sqrt{2} x^2 y \sqrt{y}$$

$$= \boxed{4x^2y\sqrt{2y}}$$

4. (7 pts) Rewrite the following expressions with positive exponents only and simplify.

$$\begin{aligned}
 \text{(a). } x^{-1/2} \cdot x^3 \cdot x &= x^{-\frac{1}{2}+3+1} \\
 &= x^{-\frac{1}{2}+\frac{6}{2}+\frac{2}{2}} \\
 &= \boxed{x^{7/2}}
 \end{aligned}$$

$$\text{(b). } \left(\frac{a^3b^2}{3a-2}\right)^{-2} = \left(\frac{3a-2}{a^3b^2}\right)^2 = \boxed{\frac{(3a-2)^2}{a^6b^4}} \text{ or } \boxed{\frac{9a^2-12a+4}{a^6b^4}}$$

expand numerator.

oops...
 typo: Should have been

$$\left(\frac{a^3b^2}{3a^{-2}}\right)^{-2} = \left(\frac{3a^{-2}}{a^3b^2}\right)^2 = \frac{3^2 a^{-4}}{a^3 b^2} = \frac{9}{a^3 b^2 a^4} = \frac{9}{a^7 b^2}$$