

Name:

Quiz 1

Math 100 Fall 2011

To receive full credit for the following problems you must SHOW YOUR WORK. All answers should be expressed in fraction form: i.e, in the form $\frac{a}{b}$ where a and b are integers. Of course you may write a for the fraction $\frac{a}{1}$.

1. (5 pts.) Compute $\frac{|5-8|^3}{|-7|-|-2|}$.
SOLUTION:

$$\begin{aligned}\frac{|5-8|^3}{|-7|-|-2|} &= \frac{|-3|^3}{7-2} \\ &= \frac{3^3}{5} \\ &= \frac{27}{5}\end{aligned}$$

2. (5 pts.) Compute $\sqrt{|-30+5(2^3-7)|}$.

SOLUTION:

$$\begin{aligned}\sqrt{|-30+5(2^3-7)|} &= \sqrt{|-30+5(8-7)|} \\ &= \sqrt{|-30+5|} \\ &= \sqrt{|-25|} \\ &= \sqrt{25} \\ &= 5.\end{aligned}$$

3. (5 pts.) Evaluate the expression $\frac{(x-3)^2}{9} + \frac{(y+5)^2}{16}$ when $x = 4$ and $y = 3$.

SOLUTION:

$$\begin{aligned}\frac{(x-3)^2}{9} + \frac{(y+5)^2}{16} &= \frac{(4-3)^2}{9} + \frac{(3+5)^2}{16} \\ &= \frac{1^2}{9} + \frac{8^2}{16} \\ &= \frac{1}{9} + \frac{64}{16} \\ &= \frac{1}{9} + \frac{4}{1} = \frac{37}{9}\end{aligned}$$

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4. (5 pts.) Compute $(-2 \cdot |-3|)^2 - 6^2$. SHOW YOUR WORK.

SOLUTION:

$$\begin{aligned}(-2 \cdot |-3|)^2 - 6^2 &= (-2 \cdot 3)^2 - 36 \\ &= (-6)^2 - 36 = 36 - 36 = 0\end{aligned}$$