

Name: \_\_\_\_\_

Circle your answer for problems 1-3. You must show correct work to receive credit.

(8 pts) 1. Calculate:

$$\frac{6^2 - (5-2)^3}{2^3 - 2 \cdot 3}$$

A.  $\frac{3}{2}$

B. 0

C.  $\frac{9}{2}$

D.  $-\frac{25}{2}$

E. 3

(8 pts) 2. Solve for  $x$ .

$$\frac{1}{3}x + \frac{1}{6} = \frac{5}{6}$$

A.  $x = 2$

B.  $x = 1$

C.  $x = \frac{5}{2}$

D.  $x = 4$

C. None of the above.

(8 pts) 3. Solve for  $m$ .

$$V = \frac{4}{3}mr^3$$

A.  $m = \frac{4}{3}r^3V$

B.  $m = \frac{3}{4}Vr^3$

C.  $m = \frac{4V}{3r^3}$

Name: \_\_\_\_\_

D.  $m = \frac{4r^3}{3V}$

E.  $m = \frac{3V}{4r^3}$

Place your answer in the spaces provided. You must show your work to receive credit.

(6 pts) 4. Calculate.

$$-8.1 - (-6.3)$$

(12 pts) 5. Simplify.

(6 pts) (a)  $-6z(2w - 5x + 3y)$

(6 pts) (b)  $-4(y + 2) + 3y - 2(y - 4)$

(10 pts) 6. Melissa has grades of 57, 78, and 82 on her first three biology exams. What score does she need on the fourth exam to have an average of 80% in the class? (Name the variable and **set up an equation**. Do NOT solve.)

Name: \_\_\_\_\_

equation:

Place your answer in the spaces provided. You must show your work to receive credit.

(14 pts) 7. Simplify. Do not leave negative exponents in your answer.

(6 pts) (a)  $\left(\frac{1}{4}a^5b^2c\right)(28a^3b^0c^3)$

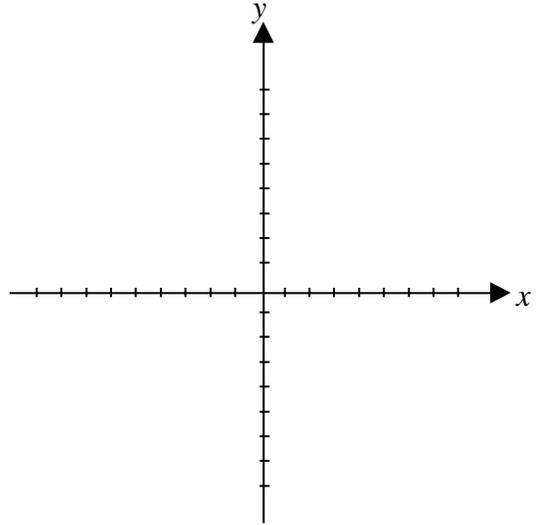
(8 pts) (b)  $\frac{6x^6y^{-2}z^3}{24x^{-1}y^4z^8}$

(6 pts) 8. Divide. Express your answer in scientific notation.

$$\frac{(7.12 \times 10^9)}{(4.0 \times 10^{-2})}$$

Name: \_\_\_\_\_

- (8 pts) 9. Graph  $y = x^2 - 3$  on the coordinate axes below. You must label at least three points on the graph.



Place your answer in the spaces provided. You must show your work to receive credit.

- (10 pts) 10. One angle of a triangle is three times as large as a second angle. The third angle is  $40^\circ$  more than the second angle. Find the measure of the largest angle. (Name the variable, **set up an equation**, and solve.)

Largest angle =

Name: \_\_\_\_\_

- (10 pts) 11. Mike expects to earn \$720 if he invests \$6,000 in an account for three years. Find the rate of simple interest his money will have to earn. Give your answer as a percent.