Mr. Mumaugh Exam # 1 Name _____

Solano College Math 104 Date _____

Copy original problem.

Convince ***me*** that ***you*** know the concept.

No Calculators.

I Simplify. Do not use negative exponents in final answers. (3 pts ea)

A) $-\frac{5}{7}-\left(-\frac{9}{10}\right)$ B) $-26.2-2.24$ C) $-\frac{2}{3}\cdot\left(-\frac{3}{7}\right)$ D) $\frac{-24.8}{-6.2}$

E) $12x-3\left(2x-8\right)+3$ F) $\left(3x^{-6}y^{-3}\right)\left(8x^{-2}y^{-5}\right)$ G) -5^{-2} H) $-3\left(x-3\right)-7\left(x+4\right)$

I) $-\left(4x^{2}y^{8}\right)^{0}$ J) $\left(\frac{6x^{4}y^{-8}}{-18y^{-6}}\right)^{2}$

II Solve for x. (5 pts ea)

A) $2x-3=\frac{1}{3}x+\frac{1}{2}$ B) $3x-\left(16-5x\right)=3\left(x-2\right)$ C) $g=x\frac{M}{R^{2}}$ D) $\frac{1}{2}x+\frac{2}{3}=\frac{3}{4}+\frac{5}{6}x$

III For each problem, write the equation of the line in graphing form, draw an axis and sketch the graph. Be sure your line crosses both axes, if possible. (5 pts ea)

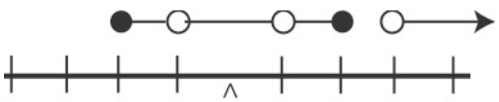
A) $-2x+y=1$ B) $5y-2x=10$ C) Line contains $\left(4,-1\right)$ and $\left(8,-4\right)$

D) Line has slope $\frac{2}{3}$ and contains $\left(6,3\right)$ E) Line contains $\left(15,-12\right)$ and is parallel to $4x-3y=9$

IV Write the intervals described by the following number lines:

A)

B)



(5 pts ea)

V The pressure 100 ft beneath the ocean's surface is approximately 4 atm (atmospheres), whereas at a depth of 200 ft, the pressure is about 7 atm. (15 pts tot)

A) Write coordinates (d,a) where a would be the atmospheres at d feet. Write an equation in the form of $y = mx + b$ based on that data.

B) Use the equation you found above to find the pressure at 1,000 feet.

C) Humans can withstand up to 10 atm without assisted breathing apparatus. Use the equation you found above to find the depth a human can dive without assistance.

Extra Credit ---- 5 points ----

Alan and Betty's ages add up to 25. Betty and Charlie's ages add up to 29. Denise is 14. Twice her age is equal to the sum of Alan and Charlie's ages. Who is the youngest of the group?