

Name:

Quiz 1

Instructions: Answer all of the questions as best as you can. Show all your work and make it clear what your answer is. Calculators are allowed, but not graphing calculators.

1. Simplify the following expression:

$$\frac{x^{-9}y^4}{(x^{-2}y^2)^3}$$

2. Solve for x in the following:

$$\frac{1}{4} = -3x + \frac{1}{2}$$

3. At your annual “dress up like a businessman” party, you had 58 people show up. A quick count during your favorite segment, “staff meeting,” revealed the following:

- 50 people had neckties
- 30 people had suit coats
- 20 people had briefcases
- 25 people had suit coats and neckties
- 16 people had neckties and briefcases
- 12 people had briefcases and suitcoats
- 10 people had suit coats, neckties, and briefcases

Answer the following questions regarding your hit party. (Hint: Draw a Venn diagram)

- (a) How many people had neckties or suit coats but did not have briefcases?
- (b) How many people didn't have any of the three items?
- (c) How many people had only a briefcase?