

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

### Midyear Review

1. What is another way to write the expression:  $\sqrt[5]{x} \cdot \sqrt[5]{x} \cdot \sqrt[5]{x} \cdot \sqrt[5]{x} \cdot \sqrt[5]{x}$

2. Below are two data sets, find the difference between their: median, mean, mode, range, and interquartile range. Which data set do you THINK has a higher standard deviation?

Data set 1: {45, 34, 53, 46, 37, 41, 39, 43, 45, 34, 33, 56, 50, 31, 28}

Data set 2: {40, 42, 28, 58, 34, 54, 70, 36, 20, 28, 65, 60, 50, 23, 38}

3. What is the value of x in the equation below?

$$\left(\sqrt[3]{\frac{c}{d}}\right)^{\frac{3}{5}} = \left(\frac{c}{d}\right)^x$$

4. Solve the following equation and justify your steps:  $4(x + 2) = 16$

5. Given the equation:  $\frac{a}{b} = \frac{3}{\sqrt{2}}$ , solve for b.

6. If  $x^{\frac{1}{3}} = y$ , show why the following statement is also true:  $x = y^3$

7. Identify the terms in the expression below:

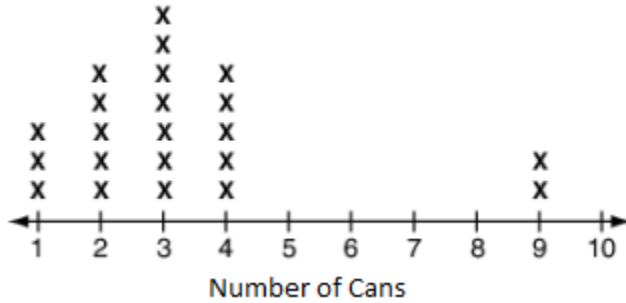
$$8x^2y^3x + 3x + 14y - 3$$

Now solve the equation if  $y = 1$  and  $x = 2$ :

8. Given the two-way frequency table below, who has a stronger preference for movies, men or women?

Gender	Preferred Program			
	Dance	Sports	Movies	Total
Women	16	6	8	30
Men	2	10	8	20
Total	18	16	16	50

9. The line plot below shows the number of cans each member of the National Honor Society brought to school in support of the annual canned food drive.



Which statement is the **most** reasonable interpretation of the data distribution?

- A. The sponsor recommended that each member bring between 5 and 8 cans
  - B. The sponsor recommended that each member bring between 2 and 4 cans
  - C. The sponsor recommended that each member bring at least 10 cans
  - D. The sponsor recommended that each member bring 1 can
10. Ryan is 35 years old. 2 Years ago, he was three times Megan's age at that time. How old is Megan now?

11. Use the function given to answer the question below.

$$f(x) = \frac{1}{2}x + 48 \quad f(20) =$$

12. Teddy Bridgewater worked at Snappers during his high school summer breaks. The money he earned for the first 6 weeks is given below.

\$ 45, 85, 43, \$45, \$37, \$70

Teddy then earned \$29 in the 9<sup>th</sup> week. How were the **Mean** and **Median** affected?