

- Solving proportions.
- Operating with signed numbers.
- Solving equations and inequalities.

I. Solve the following problems.

1. Use cross multiplication to find  $x$ .  $\frac{4}{5} = \frac{x}{5}$
2. Use cross multiplication to find  $x$ .  $\frac{7}{x} = \frac{21}{9}$
3. A recipe uses 2 cups of sugar for every 3 cups of flour. How many cups of sugar are needed for 12 cups of flour?
4. A person who weighs 125 pounds on Earth would weigh  $47\frac{1}{5}$  pounds on Mercury. Write a proportion and solve to determine how much a child who weighs 50 pounds on Earth would weigh on Mercury.
5. A plant grows  $\frac{3}{4}$  of an inch every week. Determine how many inches the plant grows in a month. (Assume 4 weeks in 1 month)

II. Find the constant of proportionality.

<p><b>a)</b></p> <p>Profit (dollars)</p> <p>Items</p> <p>a. <math>\frac{1}{5}</math> b. 2 c. 5 d. 10</p>	<p><b>b)</b></p> <p>The number of pages Cameron reads varies directly with time in minutes. He can read 15 pages in 60 minutes. What is the constant of proportionality for the number of minutes to read 1 page?</p> <p>a. <math>\frac{1}{4}</math> b. <math>\frac{1}{2}</math> c. 2 d. 4</p>									
<p><b>c)</b></p> <table border="1"> <thead> <tr> <th>Jazz Band</th> <th>Percussionists</th> <th>Total Members</th> </tr> </thead> <tbody> <tr> <td>Middle School</td> <td>6</td> <td>15</td> </tr> <tr> <td>High School</td> <td>8</td> <td>20</td> </tr> </tbody> </table> <p>a. <math>\frac{3}{10}</math> b. <math>\frac{2}{5}</math> c. <math>\frac{8}{15}</math> d. <math>\frac{3}{4}</math></p>	Jazz Band	Percussionists	Total Members	Middle School	6	15	High School	8	20	<p><b>d)</b> <math>x = 10</math> and <math>y = 110</math></p>
Jazz Band	Percussionists	Total Members								
Middle School	6	15								
High School	8	20								

III. Operating with Signed Numbers.

- 1)  $-7 + 5 =$
- 2)  $3.5 + (-2.8) =$
- 3)  $-4.2 - 7.6 =$
- 4)  $6 - (-9) =$
- 5)  $-6 \times 4 =$
- 6)  $8 / (-2) =$
- 7)  $-5 \times (-3) =$