

<p>Given the problem <math>8.6 \times 7\frac{1}{4} \times \frac{1}{2}</math> which of the following does NOT yield an equivalent statement?</p> <p>a. <math>4.3 \times 7\frac{1}{4}</math>  b. <math>8.6 \times 7.25 \times 0.5</math>  c. <math>8\frac{3}{5} \times 7\frac{1}{4} \times 0.5</math>  d. 31</p> <p>© Olympia High School (2004) <b>13</b></p>	<p>Which is greater 30% of <math>x</math> or <math>x\%</math> of 30?  Show your work.</p> <p>© Olympia High School (2004) <b>14</b></p>
<p>Paul bought 2 bags of chips for \$ 1.25 each, milk for \$3.19 and a soda for \$0.99. If there was no sales tax, about how much change did he get from his \$20.00 bill?</p> <p>a. \$12.50  b. \$13.00  c. \$13.50  d. \$14.00</p> <p>© Olympia High School (2004) <b>15</b></p>	<p>John works between 4 and 6 days a week for about 6 hours a day. He makes \$8.55 an hour. About how many weeks will he have to work to earn enough money to buy a \$450.00 snowboard?</p> <p>a. 2 weeks  b. 4 weeks  c. 6 weeks  d. 10 weeks</p> <p>© Olympia High School (2004) <b>16</b></p>
<p>In a museum, a wall measures 20 feet long and 12 feet high. The curator wishes to hang as many paintings as possible in this space. The museum requires there be at least a 2 foot space between the edge of the wall and a painting, as well as between paintings. All of the paintings that must be hung are about <math>3\frac{3}{4}</math> ft wide by <math>2\frac{2}{3}</math> ft high. How many paintings can fit on this wall?  Show your work</p> <p>© Olympia High School (2004) <b>17</b></p>	<p>The senior class has a 5:4 ratio of girls to boys. If 10 more boys enter the class, the ratio becomes 5:5. How many girls are in the class?</p> <p>© Olympia High School (2004) <b>18</b></p>

Given the problem  $8.6 \times 7\frac{1}{4} \times \frac{1}{2}$  which of the following does NOT yield an equivalent statement?

- a.  $4.3 \times 7\frac{1}{4}$
- b.  $8.6 \times 7.25 \times 0.5$
- c.  $8\frac{3}{5} \times 7\frac{1}{4} \times 0.5$
- d.** 31

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They are the same.  $30\% = \frac{30}{100}$  so

$$\frac{30}{100} \times x = \frac{30x}{100} \text{ and } x\% = \frac{x}{100}$$

$$\text{so } \frac{x}{100} \times 30 = \frac{30x}{100}. \text{ Thus}$$

$$\frac{30}{100} \times x = \frac{30x}{100} = \frac{x}{100} \times 30$$

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Paul bought 2 bags of chips for \$ 1.25 each, milk for \$3.19 and a soda for \$0.99. If there was no sales tax, about how much change did he get from his \$20.00 bill?

- a. \$12.50
- b. \$13.00
- c.** \$13.50
- d. \$14.00

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John works between 4 and 6 days a week for about 6 hours a day. He makes \$8.55 an hour. About how many weeks will he have to work to earn enough money to buy a \$450.00 snowboard?

- a.** 2 weeks
- b. 4 weeks
- c. 6 weeks
- d. 10 weeks

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The museum can hang 6 paintings on the wall. If the museum requires a 2 foot border around the wall, that leaves a 16 ft x 8 ft space for the paintings. The paintings are nearly 4 feet wide so 3 pictures with 2 foot spaces between them would take up about 16 ft of width. The paintings are almost 3 ft tall so 2 paintings with a 2 foot space between them takes up almost 8 ft of space. The museum can hang 3 paintings across and 2 pictures down, or 6 paintings.

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There are 50 girls. Choose variables to represent boys and girls in the class ( $x =$  girls,  $y =$  boys) then  $\frac{5}{4} = \frac{x}{y}$ . When 10 boys are added,  $\frac{5}{5} = \frac{x}{(y+10)}$ .

Cross multiply to get 2 equations:  
 $5y = 4x$  and  $5(y+10) = 5x$ .

Solve the first for  $y$  and get  $y = \frac{4}{5}x$ , then substitute this into the second equation:  
 $5(\frac{4}{5}x + 10) = 5x$  and solve to get  $x = 50$  girls.

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