

8-116. Mr. Benesh is in charge of Walt Clark Middle School. He is organizing a project to paint all 36 classrooms during the school's summer break. He estimates that it will take one person five hours to paint each classroom. **5 hrs. = 1 door**



a) How many total hours would it take for one person to paint all of the classrooms?

$$36 \times 5 = 5 \begin{array}{|l} 30 \\ 6 \\ \hline 180 \\ 30 \\ \hline \end{array} = 180 \text{ hours}$$

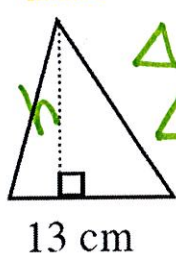
b) Mr. Benesh has a team of four workers he is planning to assign to the job. Assuming they all paint at the same rate of five hours per classroom, how many hours would it take the team to do the painting?

$$180 \div 4 = 4 \overline{)180} \begin{array}{r} 45 \\ -16 \\ \hline 00 \end{array} = 45 \text{ hours}$$

c) Mr. Benesh realized that he needs the painting to be finished in nine hours so that a different team can come in to wax the floors before school starts. How many people will he need to assign to do the painting in order to do this?

$$180 \div \boxed{?} = 9 \longrightarrow 9 \overline{)180} \begin{array}{r} 20 \\ -18 \\ \hline 00 \end{array} = 20 \text{ people}$$

8-118. If the area of this triangle is 100.75cm^2 , what is the height? (You can use a calculator on this one!)



$$\Delta = \frac{1}{2} \cdot b \cdot h$$

$$\Delta = 100.75\text{cm}^2$$

$$100.75 = \frac{1}{2} \cdot 13 \cdot h$$

$$100.75 = 6.5h$$

$$100.75 \div 6.5 = 15.5 = h$$

8-82. Without a calculator, calculate the solution for the following decimal expressions.

a) $1.2 + 3.04$

$$\begin{array}{r} 1.20 \\ +3.04 \\ \hline 4.24 \end{array}$$

c) 4.6×0.4

$$\begin{array}{r} 4.6 \\ \times 0.4 \\ \hline 184 \\ \hline 1.84 \end{array} \text{ (2)}$$

b) $3.85 - 2.1$

$$\begin{array}{r} 3.85 \\ -2.10 \\ \hline 1.75 \end{array}$$

d) $19.85 \div 5$

$$5 \overline{)19.85} \begin{array}{r} 3.97 \\ -15 \\ \hline 48 \\ -45 \\ \hline 35 \end{array}$$



9-75. Find each of the following values or percents without using a calculator. Show your work.

a) What is 22% of 400?

$$\frac{22}{100} \times \frac{400}{1} = \frac{8800}{100} = 88$$

$$4 \begin{array}{|l} 20 \\ 2 \\ \hline 80 \\ 8 \end{array}$$

b) \$35 is what percent of \$125?

$$\frac{35}{125} = \frac{?}{100} \rightarrow \frac{7}{25} \times \frac{4}{4} = \frac{28}{100} = 28\%$$

simplify

c) 94% of \$130 is what amount?

$$\frac{94}{100} \times \frac{130}{1} = \frac{12220}{100} = \$122.20$$

100	90	4	9000	400	9000
30	2700	120	2700	120	520
					12220

9-79. Solve each equation using inverse operations.

$a - 13 = 49$

$$\begin{array}{r} 49 \\ +13 \\ \hline 62 \end{array}$$

$a = 62$

$4b = 68$

$$4 \overline{)68} \begin{array}{r} 17 \\ -4 \\ \hline 28 \\ -28 \\ \hline 0 \end{array}$$

$b = 17$

$78 = c + 19$

$$\begin{array}{r} 78 \\ -19 \\ \hline 59 \end{array}$$

$c = 59$

$\frac{d}{6} = 36$

$$6 \begin{array}{|l} 30 \\ 6 \\ \hline 180 \\ 36 \\ \hline 216 \end{array}$$

$d = 216$

$\frac{1}{3}e = 24$

$$\frac{24}{1} \times \frac{1}{3}$$

$$\frac{24}{1} \times \frac{3}{1}$$

$$3 \begin{array}{|l} 60 \\ 12 \\ \hline 72 \end{array} = 72$$

$e = 72$

$5f = 17$

$$5 \overline{)17.00} \begin{array}{r} 3.4 \\ -15 \\ \hline 20 \end{array}$$

$f = 3.4$