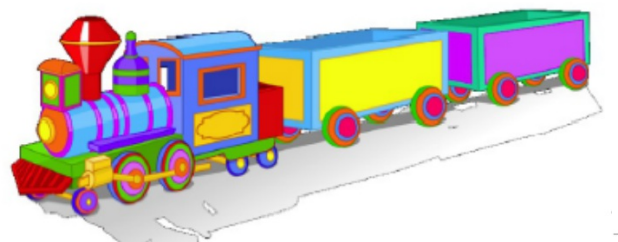


MARCH 6, 2015 ^{1st} ^{2nd} Starter

Santa sometimes helps the elves by making some toys. He's not as fast as the elves, but he can still make 30 toys each hour. In order to keep from getting bored he starts each day by building 50 trains and then switches to building 50 airplanes. Then he switches back to trains and keeps switching back and forth until the day is finished. If Santa starts work at 8:00 am, when will he finish his 108th train?



3/6 Percent Increase/Decrease

"Percent Increase" means how much a number has increased **compared to the original** number.

If you made \$40 mowing lawns one week and \$48 the following week, what is the **percent increase**?

$$\frac{48}{40} - 1 = \frac{8}{40} = \frac{1}{5} = 20\%$$



If you made \$50 one week for shoveling driveways and only \$30 the next week since it hardly snowed, what was the **percent decrease**?

$$\frac{20}{50} = \frac{40}{100} = 40\% \text{ decrease}$$



Find the percent change and determine if is an increase or decrease.

From 42 to 82

$$\begin{array}{r} 82 \\ -42 \\ \hline 40 \end{array}$$

$$\frac{40}{42} \rightarrow \frac{n}{100}$$

$$\frac{42n}{42} = \frac{4000}{42}$$
$$n = 95.2\% \text{ inc.}$$

$$4000 \div 42 = 95.238095$$

From 90 to 82

$$\begin{array}{r} 90 \\ -82 \\ \hline 8 \end{array}$$

$$\frac{8}{90} \rightarrow \frac{p}{100}$$

$$90p = 800$$
$$p = 8.9\% \text{ dec.}$$

$$800 \div 90 = 8.888889$$

From 65 to 64

$$\frac{1}{65} \rightarrow \frac{p}{100}$$

$$\frac{65p}{65} = \frac{100}{65}$$

$$p = 1.5\% \text{ dec.}$$

$$100 \div 65 = 1.538462$$

From 34 to 72

$$\begin{array}{r} 72 \\ -34 \\ \hline 38 \end{array}$$

$$\frac{38}{34} \rightarrow \frac{p}{100}$$

$$34p = 3800$$

$$p = 111.8\% \text{ inc.}$$

$$3800 \div 34 = 111.764706$$

Find the percent change and determine if is an increase or decrease.

From \$78 to \$84

$$\frac{6}{78} = \frac{P}{100}$$
$$78p = 600$$
$$p = 7.7\% \text{ inc.}$$

$$600 \div 78 = 7.692308$$

From 52 hours to 13 hours

$$\frac{39}{52} = \frac{P}{100}$$
$$52p = 3900$$
$$p = 75\% \text{ dec.}$$

$$3900 \div 52 = 75$$

Homework

Green WS3

Due Tuesday