

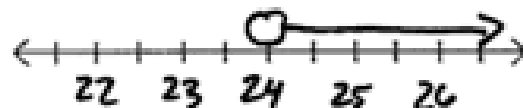
Get out your homework and have it ready to check. Target Check Thursday!

Classwork - Writing Inequalities

Write an inequality to represent the situation. Then solve and graph the inequality. SHOW WORK

A) Emily earns 8.25 each hour at her job. How many hours does she need to work in order to save more than \$198.

Define variable: $h = \# \text{ of hours}$



Inequality

$$\begin{array}{r} 8.25h > 198 \\ \hline 8.25 \quad 8.25 \end{array}$$

$$h > 24 \text{ hours}$$

Greater than 24 hours

B) Claire has money in her bank account. She deposits the \$30 her uncle gave her for her birthday. She knows she will have at least \$205 in her account after the deposit. How much money ~~does~~ ^{did} she have in her account ~~now?~~ before the deposit?

Define variable: $m = \text{Money in account before}$



Inequality

$$\begin{array}{r} m + 30 \geq 205 \\ \hline -30 \quad -30 \\ \hline m \geq 175 \end{array}$$

She had at least \$175.

C) Sarah has to spend \$137 on her cell phone bill. Sarah's bank requires her to have at least \$100 in the account at all times. How much money does she need in her account to pay the bill?

Define variable: $b = \$$ in bank account



$$\begin{array}{r} \text{Inequality} \\ b - 137 \geq 100 \\ +137 \quad +137 \\ \hline b \geq 237 \end{array}$$

She must have at least \$237

D) Michael is trout fishing and has caught and kept 3 fish so far. The legal limit of trout you can catch in one day is no more than 10. How many more fish could Michael possibly catch?

Define variable: $f = \#$ of fish



$$\begin{array}{r} \text{Inequality} \\ f + 3 \leq 10 \\ -3 \quad -3 \\ \hline f \leq 7 \end{array}$$

He can catch up to 7 more fish

A) A suitcase must weigh less than 50 pounds, or extra fee will be charged. Patrick's suitcase now weighs 38 pounds. How much weight could Patrick add to the suitcase without paying an extra fee?

Define variable: $p = \# \text{ of pounds}$

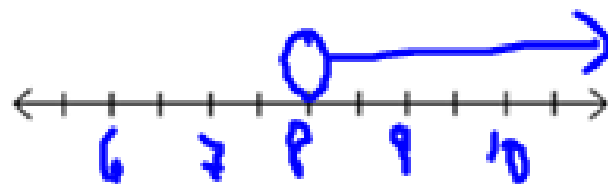


Inequality

$$\begin{array}{r} p + 38 < 50 \\ - 38 \quad - 38 \\ \hline p < 12 \text{ pounds} \end{array}$$

B) Alex can make 25 Valentine's cards each hour. If she plans to make more than 200 cards, how many hours would that take?

Define variable: $h = \text{hours}$



Inequality

$$\begin{array}{r} 25h > 200 \\ \hline 25 \quad 25 \\ \hline h > 8 \text{ hours} \end{array}$$

C) TJ sells shoes and is paid \$56 no matter how many shoes he sells. TJ also gets paid \$8 for every pair of shoes he sells. How many pairs of shoes does TJ need to sell today to make if he wants to make over ~~\$16~~ \$120

Define variable: S = pairs of shoes

Inequality

$$\begin{array}{r} 8S + 56 > 120 \\ - 56 \quad - 56 \\ \hline 8S > 64 \\ \frac{8}{8} \quad \frac{8}{8} \\ \hline S > 8 \text{ shoes} \end{array}$$

Two operations acting on the variable...

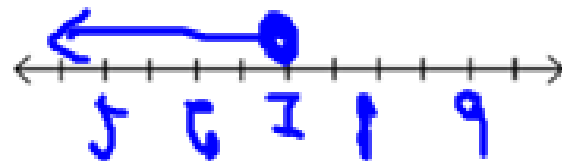


D) Carl went to the mall and bought a pair of headphones for \$24. He also found a sale on his favorite basketball shorts for \$8 each. If he only brought \$80 to spend, what is the greatest number of shorts he could buy?

Define variable: S = # of shorts

Inequality

$$\begin{array}{r} 8S + 24 \leq 80 \\ - 24 \quad - 24 \\ \hline 8S \leq 56 \\ \frac{8}{8} \quad \frac{8}{8} \\ \hline S \leq 7 \text{ pairs of shorts} \end{array}$$



$S \leq 7$ pairs of shorts

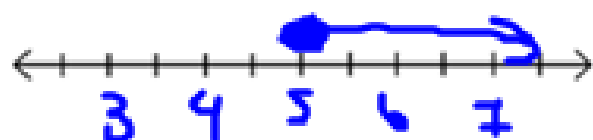
E) Alyssa is selling dresses that she has made for ~~\$20~~ ^{\$16}. It costs Alyssa \$30 to make the dresses that she is selling. If Alyssa wants to make at least \$50, how many dresses does she have to sell?

Define variable: d = dresses

Inequality

$$\begin{array}{r} 16d - 30 \geq 50 \\ + 30 \qquad + 30 \\ \hline \frac{16d}{16} \geq \frac{80}{16} \end{array}$$

$d \geq 5$ dresses



F) Jackson has a savings account with \$200 in it. Each year he plans to add \$350 to his account. How many years will it take for the account to have \$3,000 or more in it?

Define variable: y = years

Inequality

$$\begin{array}{r} 200 + 350y \geq 3000 \\ - 200 \qquad - 200 \\ \hline 350y \geq 2800 \\ \frac{350y}{350} \geq \frac{2800}{350} \end{array}$$

$y \geq 8$ years

