

8.2.1

HWK

8-35)

a) Not representative; neighborhoods in towns tend to have different characteristics from each other like wealth, ethnic make-up, proximity to services, traffic, etc.

b) Fairly representative; but this will also survey non-voters; it would be better to survey only voters

c) Not representative; this samples the pop. of people who attend church & who favor the particular pancake restaurant & have time & \$ for a leisurely brunch

d) Possibly; it might be pretty representative because you will get active citizens who are also more likely to vote; but if a "hot topic" is on the agenda, you might get mostly those who are passionate about the one agenda item.

e) This sample is just about the best you are going to get for a representative sample of voters.

8-36)

a) $\frac{10}{25} = 40\%$ increase

b) $\frac{10}{35} = 28.6\%$ discount

c) Each percentage was related to a different whole or original price.

8-31)

a) $\frac{12}{5} \div \frac{7}{10}$

$$\frac{24}{10} \div \frac{7}{10} \quad 24 \div 7 = 3.4$$

$$\frac{24}{7}$$

b) $\frac{9}{4} \div (-\frac{1}{3})$

$$\frac{27}{12} \div (-\frac{4}{12})$$

$$-\frac{27}{4} = -6\frac{3}{4}$$

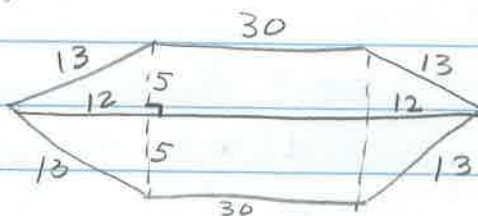
c) $-\frac{3}{5} \div (-\frac{1}{6})$

$$-\frac{18}{30} \div -\frac{5}{30}$$

$$\frac{18}{5} = 3\frac{3}{5}$$

3-38)

a)



$$A = bh$$

$$A = 30 \cdot 10 \\ = 300 \text{ units}^2$$

$$A = \frac{1}{2}bh$$

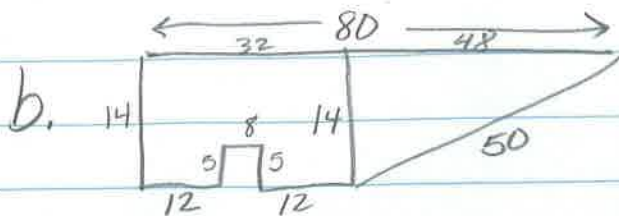
$$= \frac{1}{2} \cdot 10 \cdot 12 \\ = 5 \cdot 12 \\ = 60 \text{ units}^2$$

$$60 \cdot 2 = 120 \text{ units}^2$$

TOTAL = Area

$$300 + 120 = \\ 420 \text{ units}^2$$

Perimeter = 112 units.



$$\begin{aligned}
 A &= bh \\
 &= 32 \cdot 14 \\
 &= 448 \text{ units}^2
 \end{aligned}$$

$$\begin{aligned}
 A &= \frac{1}{2}bh \\
 &= \frac{1}{2} \cdot 48 \cdot 14 \\
 &= 24 \cdot 14 \\
 &= \underline{336 \text{ units}^2}
 \end{aligned}$$

$$448 - 40 = \underline{408 \text{ units}^2}$$

$$\begin{aligned}
 \text{TOTAL AREA} &= 408 + 336 = \\
 &= \underline{744 \text{ units}^2}
 \end{aligned}$$

$$\text{Perimeter} = 186 \text{ units}$$

8-39)

$$|35 - s| \leq 10$$

$$a) |35 - 25| \leq 10$$

$$10 \leq 10$$

$$|35 - 26| \leq 10$$

$$9 \leq 10$$

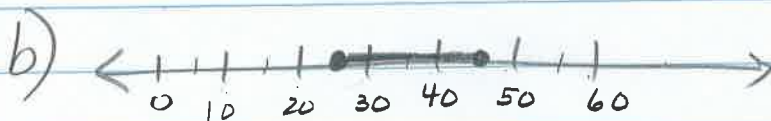
any speed from

25 mph to 45 mph

$$|35 - 45| \leq 10$$

$$|-10| \leq 10$$

$$10 \leq 10$$



8-40)

$$a) \begin{array}{r} 24 = 3x + 3 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\frac{21}{3} = \frac{3x}{3}$$

$$7 = x$$

$$b) 2(x - 6) = x - 14$$

$$2x - 12 = x - 14$$

$$\begin{array}{r} -x \quad -x \\ \hline \end{array}$$

$$x - 12 = -14$$

$$\begin{array}{r} +12 \quad +12 \\ \hline \end{array}$$

$$x = -2$$

$$c) 3(2x - 3) = 4x - 5$$

$$6x - 9 = 4x - 5$$

$$\begin{array}{r} +9 \quad +9 \\ \hline 6x = 4x + 4 \\ -4x \quad -4x \\ \hline \end{array}$$

$$2x = 4$$

$$x = 2$$

$$d) \frac{3}{4}x = 2x - 5$$

$$0.75x = 2x - 5$$

$$\begin{array}{r} -2x \quad -2x \\ \hline \end{array}$$

$$-1.25x = -5$$

$$\begin{array}{r} -1.25 \quad -1.25 \\ \hline \end{array}$$

$$x = 4$$

$$\begin{array}{r}
 \textcircled{4} \frac{3}{4}x = 2x - 5 \\
 3x = 8x - 20 \\
 -8x \quad -8x \\
 \hline
 -5x = -20 \\
 \frac{-5}{-5} \quad \frac{-20}{-5} \\
 x = 4
 \end{array}$$