

099 Quiz/Home 1

Σ 2.1-2.3

4pts each

* signifies key steps to show

① $10.3 - 6x = -2.3$ *

$10(10.3 - 6x = -2.3)$

$103 - 60x = -23$

$-60x = -126$ *

$x = \frac{-126}{60} = \frac{-63}{30}$

$\boxed{x = \frac{-21}{10} = -2.1 = x}$ *

② $-4(3n-2) - n = -11(n-1)$

$-12n + 8 - n = -11n + 11$ *

$-13n + 8 = -11n + 11$ *

$-13n = -11n + 3$

$-2n = 3$ *

$\boxed{n = -\frac{3}{2}}$ *

$-4(3(-\frac{3}{2}) - 2) - (-\frac{3}{2}) = -11(-\frac{3}{2} - 1)$

$-4(-\frac{9}{2} - \frac{4}{2}) + \frac{3}{2} = -11(-\frac{3}{2} - \frac{2}{2})$

$-4(-\frac{13}{2}) + \frac{3}{2} = -11(-\frac{5}{2})$

$\frac{52}{2} + \frac{3}{2} = \frac{55}{2}$ ✓

③ $\frac{3}{8} + \frac{b}{3} = \frac{5}{12}$

$12 = 2 \cdot 2 \cdot 3$

$8 = 2 \cdot 2 \cdot 2$

$3 = 3$

$\boxed{LCD = 2 \cdot 2 \cdot 2 \cdot 3}$

$\frac{3}{2 \cdot 2 \cdot 2} \cdot \frac{3}{3} + \frac{b}{3} \cdot \frac{2 \cdot 2 \cdot 2}{2 \cdot 2 \cdot 2} = \frac{5}{2 \cdot 2 \cdot 2 \cdot 3} \cdot \frac{2}{2}$

$\frac{9 + 8b}{LCD} = \frac{10}{LCD}$ → $8b = 1$ *

* $9 + 8b = 10$

* $\boxed{b = \frac{1}{8}}$

④ $x = \text{price b4 tax (in \$)}$

$x + .05x = 8$ *

$1.05x = 8$ *

$x = \frac{8}{1.05} \approx \boxed{\$7.62 = x}$ *

⑤ $x = \text{Discount + price (in \$)}$

$8 - (.17)(8) = x$ *

$\boxed{\$6.64 = x}$

⑥ Let $x = 1^{\text{st}}$ number.

$5x = 2^{\text{nd}}$ "

$x + 100 = 3^{\text{rd}}$..

$x + 5x + x + 100 = 415$

$7x + 100 = 415$

$7x = 315$

$x = \frac{315}{7} = \boxed{45 = x}$

$\boxed{5x = 225}$
 $\boxed{x + 100 = 145}$

7) $x = \#$ of shoppers who will shop w/ any size company

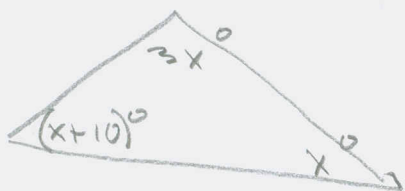
15% only do big ones

1500 shoppers surveyed

So $100\% - 15\% = 85\%$ of shoppers don't care \rightarrow

$$(.85)(1500) = \boxed{1275 = x}$$

8)



$$x + x + 10 + 3x = 180$$

$$5x + 10 = 180$$

$$5x = 170$$

$$\boxed{x = 34^\circ}$$

$$x + 10 = 44^\circ$$

$$3x = 102$$

9) Let $x = 1^{st}$ of 3 consecutive odd integers

Sum is 327 :

$$x + x + 2 + x + 4 = 327 *$$

$$3x + 6 = 327 *$$

$$3x = 321 *$$

$$\boxed{\begin{array}{l} x = 107 * \\ x + 2 = 109 \\ x + 4 = 111 \end{array}}$$

Almost no one did the units.

10) $P = 2W + 2L$

$$2W + 2L = P$$

$$2L = P - 2W$$

$$\boxed{L = \frac{P - 2W}{2}}$$

11) \$3500 @ 3% for 10 years, compounded daily.

$$A = P \left(1 + \frac{r}{n}\right)^{nt}$$

$$= 3500 \left(1 + \frac{.03}{365}\right)^{365 \cdot 10}$$

$$\approx \boxed{\$4724.45}$$

12) $x =$ the number of packages of ceiling tiles needed.

Need to cover $18' \times 12'$

$= 216 \text{ ft}^2$ of ceiling.

$$\left(\frac{50 \text{ tiles}}{1 \text{ package}}\right) \left(\frac{1 \text{ ft}^2}{1 \text{ tile}}\right) (x \text{ packages})$$

$$\text{ft}^2 \text{ of tile} = 216 \text{ ft}^2 \text{ of tile}$$

$$50x = 216$$

$$x = \frac{216}{50} \approx 4.32 \text{ packs.}$$

$$\boxed{\text{Need 5 packages}}$$