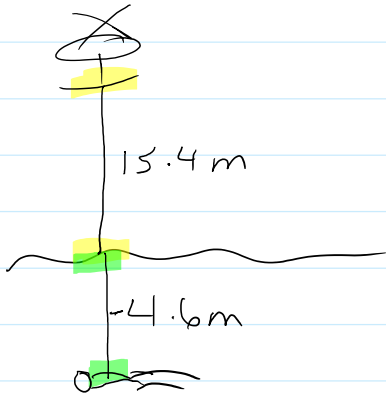


Problem Solving

Tuesday, September 17, 2019 10:47 AM

Eg A helicopter is at an altitude of 15.4 m . Directly below it are divers at a depth of 4.6 m . How far apart are the two groups.



$$15.4 - (-4.6)$$

$$15.4 + 4.6 = 20.0$$

$$\begin{array}{r} 11 \\ 15.4 \\ + 4.6 \\ \hline 20.0 \end{array}$$

The two groups are 20 m apart.

Eg You want to make your fav² recipes for Thanksgiving. One requires $2\frac{3}{4}\text{ c}$ of flour, the other $1\frac{2}{3}\text{ c}$ of flour. You want to double the second recipe but you only have 8 c of flour. Do you have enough?

$$8 - (2\frac{3}{4} + 2 \times 1\frac{2}{3})$$

$$8 - (2\frac{3}{4} + 2 \times \frac{5}{3})$$

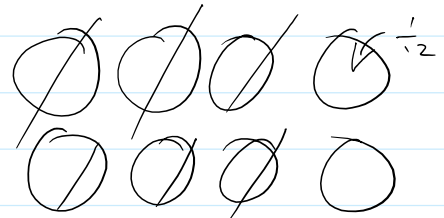
$$8 - (2\frac{3}{4} + \frac{10}{3})$$

$$8 - (\frac{11 \cdot 3}{4 \cdot 3} + \frac{10 \cdot 4}{3 \cdot 4})$$

$$8 - (\frac{33}{12} + \frac{40}{12})$$

$$8 - (\frac{73}{12})$$

$$8 - 6\frac{1}{12} = 1\frac{11}{12}$$



Yes, you have enough flour!

Eg You have \$123.74 in your account.
 You make purchases of \$29.79 and \$31.52 using your debit card. You then deposit \$25 into your account.
 What's your current balance?

$$123.74 - (31.52 + 29.79) + 25$$

$$123.74 - 61.31 + 25$$

$$62.43 + 25$$

$$87.43$$

$$\begin{array}{r} 123.74 \\ - 31.52 \\ - 29.79 \\ \hline 62.43 \\ + 25.00 \\ \hline 87.43 \end{array}$$

Your current balance is
 \$87.43

Worksheet

8) 7:00 am → 2:30 pm

$$\boxed{7 \text{ am} \rightarrow \text{noon} \rightarrow 2:30}$$

$$5 + 2\frac{1}{2} = 7\frac{1}{2}$$

$$\begin{array}{r} 14:30 \\ - 7:00 \\ \hline 7:30 \end{array}$$

Pay $\boxed{7\frac{1}{2} \times 15 \times 1\frac{1}{2}}$

$$\frac{15}{2} \times 15 \times \frac{3}{2} =$$

$$\frac{675}{4} = 168\frac{3}{4}$$

$$= \$168.75$$

$$\begin{array}{r} 2 \\ 15 \\ \hline 45 \\ 75 \\ \hline 600 \\ \hline 675 \end{array}$$

Ben earned \$168.75.

$$4 \overline{) 675}$$

$$\begin{array}{r} 168 \\ \underline{4 \downarrow} \\ 27 \\ \underline{24 \downarrow} \\ 35 \\ \underline{32} \\ 3 \end{array}$$

9) $\frac{3}{4} \div 8 = 4$ thickness of 1 layer $\frac{3}{3}$.

$$\frac{3}{32} \times 6 = \text{Thickness of 6 layers}$$

$$\frac{3}{4} \div \frac{8}{1} = \frac{3}{4} \times \frac{1}{8} = \frac{3}{32}$$

$$\frac{3}{32} \times 6 = \frac{18}{32} = \frac{9}{16}$$

6 layer plywood is $\frac{9}{16}$ " thick.

⑥ First payment $39 \times \frac{1}{3} = \frac{39}{3} = \13

$$39 - 13 = 26 \text{ still owes } \$26$$

$$\frac{1}{4} \text{ of } \$26 = \frac{1}{4} \times 26 = \frac{13}{2} = 6\frac{1}{2} \text{ } \$6.50 \text{ (2nd payment)}$$

$$26 - \$6.50 = \$19.50$$

Loi still owes \$19.50

⑥ 120 shares.

Monday $(\$.72)$ → Friday ↓ $\$.12$

total value on Friday

$$\begin{array}{r} .72 \\ - .12 \\ \hline .60 \end{array} \quad \begin{array}{r} 120 \\ \cdot 60 \\ \hline 7200 \end{array}$$

Total value on Friday \$72.00

⑩ $\frac{1.3}{6.3} + \frac{2.7}{9.2} + \frac{1.4}{3.6} = \frac{5}{18}$

$$(10) \quad \frac{1.3}{6.3} + \frac{2.7}{9.2} + \frac{1.4}{3.6} + \frac{5}{18}$$

$$\frac{3}{18} + \frac{4}{18} + \frac{6}{18} + \frac{5}{18} = \frac{18}{18} \quad | \text{ pizza}$$

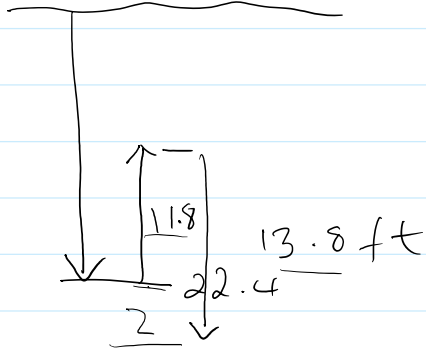
$$(4) \quad 800 \times 2\frac{3}{4} \qquad 8 \times 11 = 8800$$

$$800 \times \frac{11}{4} = \frac{8800}{4}$$

$$800 \times 3 = 2400$$

$$\begin{array}{r} 2200 \\ 4 \overline{) 8800} \\ \underline{8} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

(2)



$$-22.4 + 11.8 + 13.8$$

$$-22.4 + 13.8 + 11.8$$

$$\begin{array}{r} 22.4 \\ 13.8 \\ \hline -36.2 \end{array} \quad -36.2 + 11.8$$

$$\begin{array}{r} 36.2 \\ 11.8 \\ \hline -24.4 \end{array} \text{ m}$$

$$(5) \quad 5\frac{5}{8} \text{ c} \div \frac{3}{8} \text{ c in each bag}$$

$$12 \text{ c} \div 2 \text{ c}$$

$$5\frac{5}{8} \div \frac{3}{8}$$

$$\frac{45}{8} \div \frac{3}{8} = \frac{45}{8} \times \frac{8}{3} = \frac{45}{3} = 15 \text{ bags.}$$

Quiz

① $1\frac{7}{8} \times 2\frac{2}{5} - 1\frac{3}{4}$

$2\frac{15}{8} \times 2\frac{2}{5} - 1\frac{3}{4}$

$\frac{9 \cdot 2}{2 \cdot 2} - \frac{7}{4} = \frac{18}{4} - \frac{7}{4} = \frac{11}{4} = 2\frac{3}{4}$

② $3.4 - (-1.4) \times (0.9)$

$3.4 + (+) 1.26$

$= 4.66$

$\begin{array}{r} 1.4 \\ \times 0.9 \\ \hline 126 \end{array}$

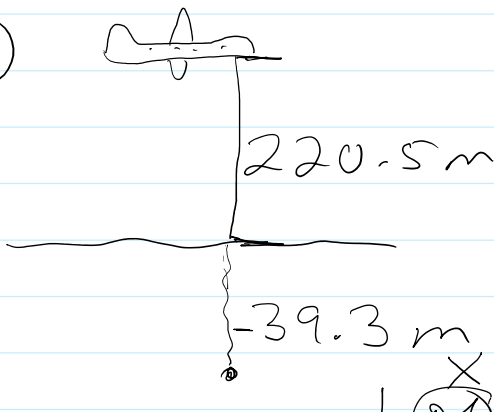
$\begin{array}{r} 3.4 \\ 1.26 \\ \hline 4.66 \end{array}$

③ $\frac{5}{6} - \frac{2}{3} \times \frac{3}{4} + \frac{5}{6}$

$\frac{5}{6} - \frac{1}{2} + \frac{5}{6}$

$\frac{5}{6} - \frac{3}{6} + \frac{5}{6} = \frac{7}{6} = 1\frac{1}{6}$

④



$220.5 - (-39.3)$

$\begin{array}{r} 220.5 \\ 39.3 \\ \hline \end{array}$

259.8 m

57.5 m ()
 $\frac{1}{3} \times 120$

⑤ week 1 $\$120 \times \frac{1}{3} = \frac{120}{3} = \40 $120 - 40 = 80$

week 2. $\frac{2}{3} \times 80 = \frac{160}{3} = \53.33 $80 - 32 = 48$

He still owes \$48.

$\frac{2}{3} \times 120 = 80$

$80 \times \frac{3}{5} = 48$

⑥ $80 \times \frac{1}{2} = 40$

$110 \times \frac{1}{2} = 55$

$$\begin{array}{r} 80 \\ \times .26 \\ \hline 1480 \\ 1600 \\ \hline 20.80 \end{array}$$

$$\begin{array}{r} 110 \\ \times .24 \\ \hline 440 \\ 2200 \\ \hline 26.40 \end{array}$$

$$\begin{array}{r} 26.40 \\ - 20.80 \\ \hline 5.60 \end{array}$$

$-\$20.80$

$+\$26.40$

Net gain of \$5.60

④ $4 \frac{5}{6} + \left(+\frac{5}{3} \right)^2$

$\frac{29}{6} + \frac{10}{6} = \frac{39}{6} = 6 \frac{3}{6} = 6 \frac{1}{2}$

⑧ $\frac{5x^2}{3x^2} - \frac{7}{6}$

$$\frac{10}{6} + \frac{-7}{6} = \frac{3}{6} = \frac{1}{2}$$

(23) $-6.7 + 16.59 + 12.26$
 $-23.29 + 12.26$
 -11.03

$$\begin{array}{r} 16.70 \\ 16.59 \\ \hline 23.29 \end{array}$$

$$\begin{array}{r} 23.29 \\ -12.26 \\ \hline 11.03 \end{array}$$

(20) $\begin{array}{r} 120 \\ -135 \\ \hline 600 \\ 3600 \\ \hline 12000 \\ 16200 \end{array}$ \$
 -162.00

(15) $\begin{array}{r} 3.38 \\ -6.3 \\ \hline 1014 \\ 20280 \\ \hline 21.294 \end{array}$ -21.294

(21) mean = average
 $\frac{11.7m}{4.5h} = m/h$

$$2.6m/h.$$

$$\frac{\text{total}}{\text{\# of ?}} \quad \frac{\text{total change}}{\text{\# hours}}$$

$$\begin{array}{r} 2.6 \\ 4.5 \overline{) 11.70} \\ \underline{90} \\ 270 \\ \underline{270} \\ 0 \end{array}$$

29

$$\left[1\frac{5}{7} \times -3\frac{1}{6} \right] \div \left[-2\frac{1}{3} \div 1\frac{3}{4} \right]$$

$$\left[\frac{12^2}{7} \times \frac{-19}{6} \right] \div \left[\frac{-7}{3} \div \frac{7}{4} \right]$$

$$\left[\frac{-38}{7} \right] \div \left[-\frac{4}{3} \right]$$

$$\frac{-38}{7} \times \frac{-3}{4} = \frac{57}{14} = 4\frac{1}{14}$$

$$\begin{array}{r} 219 \\ \times 3 \\ \hline 157 \\ 14 \\ \times 3 \\ \hline 42 \\ 57 \\ -42 \\ \hline 15 \end{array}$$

28

$$\square \div 1.45 = -0.3$$

$$\square \div 2 = 6$$

$$-0.3 \times 1.45 = \square$$

$$6 \times 2 = \square$$

$$\begin{array}{r} 1.45 \\ \times 0.3 \\ \hline .435 \end{array}$$

$$\square = -0.435$$

$$\frac{7}{8} \div \square = -\frac{7}{12}$$

$$\begin{array}{l} 12 \div \square = 3 \\ 12 \div 3 = \square \end{array}$$

$$\frac{7}{18} \div -\frac{7}{12}$$

$$\frac{7}{18} \times \frac{-12}{7} = -\frac{12}{18} = -\frac{2}{3} \text{ or } -\frac{1}{2}$$

$$\frac{7}{8} \div -\frac{3}{2} = \frac{7}{8} \times -\frac{2}{3} = \frac{-14}{24} = -\frac{7}{12}$$

- ① Finish Pre-test +/or do all corrections
- ② Write / finish "Notes to Self"
- ③ Review sheets.