

1. total: 250
 ratio Boys: girls
 10:3
 $\frac{250}{13} = 19.23$

Boys = $19.23 \times 10 = \boxed{192}$

2. 15 math = \$450
 1 math = $\frac{450}{15} = \$30$

girls = $99.3 \times 3 = \boxed{58}$

80 book * \$30
 = $\boxed{\$2,400}$

3. $2:5:3$
 \$4000 = Sarah

since sarah get 3 shares
 $\frac{\$4000}{3} = \1333.3

Nadia: $2 * \$1333.3 = \boxed{\$2,666.7}$
 Stone: $5 * \$1333.3 = \boxed{\$6,666.7}$

4. $\frac{x}{18} = \frac{5}{3}$

cross product:

$x(3) = 18(5)$

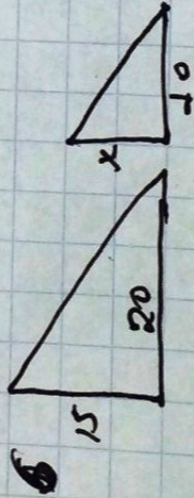
$\frac{3x}{3} = \frac{90}{3}$

$\boxed{x = 30}$

5. 5 in : 45 mile
 $\Rightarrow 1 \text{ in} : 9 \text{ miles}$

900 mile = ?
 = $\boxed{100 \text{ in}}$

on the map.



$\frac{20}{10} = \frac{15}{x}$

$\frac{20x}{20} = \frac{150}{20}$

$\boxed{x = 7.5}$

7. a) $p = 55\%$ $T_A = 255$

$P_A = ?$ $\frac{P_A}{T_A} = \frac{P}{100}$

$\frac{x}{255} = \frac{55}{100}$

$100x = 255 \times 55$

$100x = 14,025$

$\boxed{x = 140.25}$

$P_A = 80$ $P = ?$

$T_A = 180$

$\frac{80}{180} = \frac{x}{100}$

$180x = 80 \times 100$

$\frac{180x}{180} = \frac{8000}{180}$

$\boxed{x = 44.4\%}$

$P_A = 15$ $T_A = ?$

$P = 40\%$

$\frac{15}{x} = \frac{40}{100}$

$40x = 15 \times 100$

$\frac{40x}{40} = \frac{1500}{40}$

$\boxed{x = 37.5}$

8. kyle

\$650

tax $- 0.25 \times 650$

amount = $\$162.5$

tax % : 25%

Ruthel

\$700

tax % 80%

Tax = 0.20×300

Amount = $\$140.00$

$+ 300.00$

Ruthel's
 Move

9) Ryland
Total
money

$\$240$

Including
tax.

Let x be the cost
of the dress.

$$x + 0.18x = 240$$

$$\frac{1.08x}{1.08} = \frac{240}{1.08}$$

$$x = 203.4$$

tax : $\$203.4 \times 0.18$
Amount $\$36.6$

- 10) a) V
b) Q
c) S
d) R
e) T

11) a) B:R
B:12

$$\frac{100}{8} = \frac{800}{12.5}$$

$$12.5 \times 12$$

$$\boxed{\text{Red} = 150}$$

12) a) $\$7 \frac{1}{2}$ can
 $= \boxed{0.33 \text{ \$/can}}$

13) a) $\frac{x-5}{8} = \frac{6}{3}$

$$3(x-5) = 8(6)$$

$$3x - 15 = 48$$

$$\frac{3x}{3} = \frac{63}{3}$$

$$\boxed{x = 21}$$

$$3 \frac{1}{5} - \frac{3}{2} + \frac{1}{3}$$

$$\frac{16}{5} - \frac{3}{2} + \frac{1}{3}$$

$$\frac{6}{5} \left(\frac{16}{5}\right) - \frac{15}{15} \left(\frac{3}{2}\right) + \frac{10}{10} \left(\frac{1}{3}\right)$$

tax
18%

Sophie:

$\$205$

tax 0.125

tax = 51.25

Amount

$$\text{Total} = 205 + 51.25$$

Amount

$$= \boxed{\$256.25}$$

Sophie paid more. ☺

b) $\frac{120}{12} = 10$

$$10 + 8$$

$$\boxed{\text{Blue} = 80}$$

$$80 + 120$$

$$= \boxed{200 \text{ balls (Total)}}$$

b) $140 \text{ mile} / 2 \text{ hour}$
 $= \boxed{70 \text{ mile/hour}}$

14) $5x + 8 = -22$
 $-8 \quad -8$

$$\frac{5x}{5} = \frac{-30}{5}$$

$$\boxed{x = -6}$$

14) $\frac{x^{32} - x - 2}{8x} \quad x = -2$

$$\frac{(-2)^{32} - (-2) - 2}{8(-2)}$$

$$= \frac{2^{32} + 2 - 2}{-4}$$

$$= \frac{2^{32}}{-2} = -2^{32-2}$$

$$\boxed{= -2^{30}}$$

$$\frac{96}{30} - \frac{25}{30} + \frac{10}{30}$$

$$\frac{96-25+10}{30}$$

$$\boxed{\frac{61}{30} = 2 \frac{1}{30}}$$