UNIT REVIEW

1. Solve each of the following equations.

a) $-4n = -16$ divide each side by -4

$\frac{-4n}{-4} = \frac{-16}{-4}$

$n = 4$

b) $x - 9 = 17$ add $+9$ to both sides

$+9 \quad +9$

$x = 26$

c) $\frac{b}{3} = -2$ multiply each side by 3

$3 \cdot \frac{b}{3} = -2 \cdot 3$

$b = -6$

c) $-2x + 4 = 14$

$-4 \quad -4$

$\frac{-2x}{-2} = \frac{10}{-2}$

$x = -5$

d) $5x + 3x - 16 - 2x + 20 = 4x + x - 30$

$6x + 4 = 5x - 30$ $\quad -5x \quad -5x$

$x + 4 = -30$ $\quad -4 \quad -4$

$x = -34$

e) $3(x - 1) - 2(x + 1) = 5x$

$3x - 3 - 2x - 2 = 5x$

$x - 5 - x = 5x - x$

$\frac{-5}{4} = \frac{4x}{4}$

$-5/4 = x$

$\therefore x = -5/4$

f) $(x - 2) - (x + 1) = -5(2x - 1)$

$x - 2 - x - 1 = -10x + 5$

$-3 - 5 = -10x + 5 - 5$

$\frac{-8}{-10} = \frac{-10x}{-10}$

$4/5 = x$

$\therefore x = 4/5$

g) $\frac{3x}{5} - \frac{2x}{3} = 2$ LCD = 15

$15 \cdot \frac{3x}{5} - 15 \cdot \frac{2x}{3} = 15 \cdot 2$

$9x - 10x = 30$

$\frac{-x}{-1} = \frac{30}{-1}$

$x = -30$

h) $\frac{(x-2)}{6} - \frac{(x-2)}{5} = 2$ LCD = 30

$30 \cdot \frac{(x-2)}{6} - 30 \cdot \frac{(x-2)}{5} = 30 \cdot 2$

$5(x-2) - 6(x-2) = 60$

$5x - 10 - 6x + 12 = 60$

$-x + 2 = 60$ $\quad -2 \quad -2$

$\frac{-x}{-1} = \frac{+58}{-1}$

$x = -58$

2) You can convert from Fahrenheit to Celsius degrees by using the formula: $F = 2(°C+15)$.

a) Solve for C

$F = 2(C+15)$ distribute 2 over

$-30 \quad -30$

$F = 2C + 30$

$\frac{F-30}{2} = \frac{2C}{2}$ $\therefore °C = \frac{F-30}{2}$

$\frac{F-30}{2} = C$

b) What is 81°*F* converted to °*C* ?

$C = \frac{F-30}{2}$ $C = 25.5°$

$= \frac{81-30}{2}$ $\therefore$ It's 25.5°C

$= \frac{51}{2}$

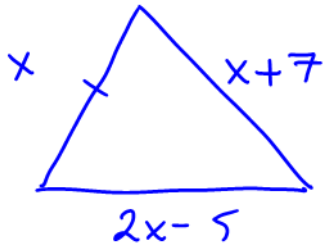
3) Determine the length of each side of a triangle if the sides are: x, x+ 7, and 2x -5 and the perimeter is 18cm.
[Write your 'let statements', an equation, and show your work.]
Consider drawing a diagram.

$x + x+7 + 2x - 5 = 18$

$4x + 2 = 18$ (−2 −2)

$\frac{4x}{4} = \frac{16}{4}$ $\therefore$ Sides are 4, 11 and 3

$x = 4$



4) Julie solved two equations. In each she made an error. Identify her error and explain what she did wrong.

a.
$3x + 5 = -2$ → It was supposed to −5
$+5 \quad +5$
$3x = 3$
$\div 3 \quad \div 3$
$x = 1$

b.
$x + 4 = +2x - 7$
$-2x \quad -2x$
$-3x + 4 = -7$ → switched the sign to +7
$-4 \quad -4$ → 2nd error
$-3x = 3$
$\div -3 \quad \div -3$
$x = -1$

x - 2x = -x, not -3x

COMPLETE: Textbook p.230 #1, 2, 5, 7, 9 and 11(ad), CP, p.28 #1abc, 3ac, 4c and p.29 #1k, 3bd