$g(r) = -5r + 13$

$g(3) = -5(3) + 13$

$= -15 + 13$

$= \boxed{-2}$

$h(t) = 50 - \frac{t}{5}$

$h(35) = 50 - \frac{(35)}{5}$

$= 50 - 7$

$= \boxed{43}$

$g(r) = -1 - 7r$

$g(6) = -1 - 7(6)$

$= -1 - 42$

$= \boxed{-43}$

$k(t) = 13t - 2$

$k(3) = 13(3) - 2$

$= 39 - 2$

$= \boxed{37}$

$2 \times 2 + 2 - 2 \div 2 - 2 \times \div 2$

$4 + 2 - 2 \div 2 - 2 \times 2 \div 2$

$4 + 2 - 1 - 2 \times 2 \div 2$

$4 + 2 - 1 - 4 \div 2$

$4 + 2 - 1 - 2 = 6 - 3 = \boxed{3}$

$2+4\cdot 2^3 \div 8 - 4$

$2+4\cdot 8 \div 8 - 4$

$2+32 \div 8 - 4$

$2+4-4$

$\boxed{2}$

$6 - \dfrac{16-4}{2+2^2} + 5$

$6 - \dfrac{12}{6} + 5$

$6 - 2 + 5$

$4 + 5$

$\boxed{9}$

$12 \div 3 + \sqrt{4^2-7} \cdot 2 - 1$

$4 + \sqrt{16-7} \cdot 2 - 1$

$4 + \sqrt{9} \cdot 2 - 1$

$4 + 3 \cdot 2 - 1$

$4 + 6 - 1$

$10 - 1$

$\boxed{9}$

$h(x) = x - 11$

$-6 \cdot -2 - 6 \cdot 6$

$12 - 6 \cdot 6$

$12 - 36$

$\boxed{-24}$

$-6 \cdot -3 - 5 \cdot 6$

$18 - 30$

$\boxed{-12}$

$4a + 7b = -52$

F(b) in terms of b

$4a + 7b = -52$

$4a + 7b = -52$

$-7b \quad -7b$

$\frac{4a}{4} = \frac{-52 - 7b}{4}$

$a = -13 - \frac{7}{4}b$

$\boxed{F(b) = -13 - \frac{7}{4}b}$

$6x + y = 4x + 11y$

$h(x)$ in terms of x

$6x + y = 4x + 11y$

$-y \qquad -y$

$6x = 4x + 10y$

$-4x \qquad -4x$

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

$\frac{1}{5}x = y$

$h(x) = \frac{1}{5}x$

$4v + 8v = -3v + 2v$

$h(v)$ in terms of v

$4v + 8v = -3v + 2v$

$-2v \qquad -2v$

$4v + 6v = -3v$

$-4v \qquad -4v$

$\frac{6v}{6} = \frac{-7v}{6}$

$v = -\frac{7}{6}v$

$h(v) = -\frac{7}{6}v$

$3m - 5n = 11$

$g(n)$ in terms of n

$3m - 5n = 11$

$+5n \quad +5n$

$\frac{3m}{3} = \frac{11 + 5n}{3}$

$$m = \frac{11}{3} + \frac{5}{3}n$$

$3a - 5 = -4b + 1$

$h(a)$ in terms of a

$3a - 5 = -4b + 1$

$-1 \qquad -1$

$\frac{3a - 6}{-4} = \frac{-4b}{-4}$

$$-\frac{3}{4}a - \frac{3}{2} = b$$

$$h(a) = -\frac{3}{4}a - \frac{3}{2}$$

$-4x-6=-5y+2$

$-2 \quad -2$

$\frac{-4x-8}{-5}=\frac{-5y}{-5}$

$\boxed{\frac{4}{5}x+\frac{8}{5}=y}$

$10q-3r=14$

$+3r \quad +3r$

$\frac{10q}{10}=\frac{14+3r}{10}$

$q=\frac{14}{10}+\frac{3}{10}r$

$\boxed{q=\frac{7}{5}+\frac{3}{10}r}$

$a-7=3(b+2)$

$a-7=3b+6$

$+7 \quad +7$

$\boxed{a=3b+13}$

$11q-4=3r-6$

$+6 \quad +6$

$\frac{11q+2}{3}=\frac{3r}{3}$

$\boxed{\frac{11}{3}q+\frac{2}{3}=r}$

$$-5x - 4y = -8$$
$$+5x \qquad +5x$$
$$\frac{-4y}{-4} = \frac{-8+5x}{-4}$$
$$\boxed{y = 2 - \frac{5}{4}x}$$

$$-3a + 6b = a + 4b$$
$$-4b \qquad -4b$$
$$-3a + 2b = a$$
$$+3a \qquad +3a$$
$$\frac{2b}{2} = \frac{4a}{2}$$
$$\boxed{b = 2a}$$

$$\text{slope} = \frac{\Delta d}{\Delta t}$$

$$\text{Slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5-(-7)}{2-(-7)} = \frac{5+7}{2+7}$$
$$= \frac{12}{9} = \boxed{\frac{4}{3}}$$

$(-1,-7), (4,0)$

$$\frac{y_2-y_1}{x_2-x_1} = \frac{0-(-7)}{4-(-1)} = \frac{0+7}{4+1} = \boxed{\frac{7}{5}}$$

$(-3,2)$ $(2,0)$

$$\frac{y_2-y_1}{x_2-x_1} = \frac{0-2}{2-(-3)} = \frac{-2}{2+3} = \frac{-2}{5} = \boxed{-\frac{2}{5}}$$

$(2,7.5)$ and $(18,42.5)$

$$\frac{y_2-y_1}{x_2-x_1} = \frac{42.5-7.5}{18-2} = \frac{35}{16} = 2.1875$$

$\approx \boxed{2.2 \text{ cm/week}}$

$(10, 36.5)$ and $(32, 28.8)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{28.8 - 36.5}{32 - 10} = \frac{-7.7}{22} = -0.35$$

$(32, 28.8)$ and $(68, 16.2)$ ///

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{16.2 - 28.8}{68 - 32} = \frac{-12.6}{36} = -0.35$$

$(9, 6)$ and $(13, 9)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 6}{13 - 9} = \frac{3}{4} = \boxed{0.75}$$

(18, 10) and (20, 18)

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{18 - 10}{20 - 18} = \frac{8}{2} = 4$$

(20, 18) and (27, 46)

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{46 - 18}{27 - 20} = \frac{28}{7} = 4$$

(-8, -8) and (-2, 3)

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - (-8)}{-2 - (-8)} = \frac{3 + 8}{-2 + 8} = \boxed{\frac{11}{6}}$$

$f(x) = x^2 + 10$

$f(-2) = (-2)^2 + 10$

$4 + 10$

14

$f(3) = (3)^2 + 10$

$9 + 10$

19

$(-2, 14)$ and $(3, 19)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{19 - 14}{3 - (-2)} = \frac{5}{3+2}$$

$$= \frac{5}{5}$$

$$= \boxed{1}$$

$(6, 19)$ and $(9, 25)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{25 - 19}{9 - 6} = \frac{6}{3} = 2$$

$(9, 25)$ and $(13, 31)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{31 - 25}{13 - 9}$$

$$= \frac{6}{4}$$

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

$$= 1.5$$

$f(x) = 3x - 2$

$y = 3x - 2$

$+2 \quad +2$

$\frac{y+2}{3} = \frac{3x}{3}$

$x = \frac{y+2}{3}$

$f^{-1}(x) = \frac{y+2}{3}$

$f^{-1}(7) = \frac{(7)+2}{3} = \frac{9}{3} = \boxed{3}$

$f(x) = -6x - 7$

$y = -6x - 7$

$+7 \quad +7$

$\frac{y+7}{-6} = \frac{-6x}{-6}$ $\quad x = \frac{y+7}{-6}$

$\boxed{f^{-1}(x) = \frac{x+7}{-6}}$

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

$$y = -\frac{2}{3}x - 5$$

$+5 \qquad +5$

$$y + 5 = -\frac{2}{3}x$$

$\div -\frac{2}{3}$

$$\frac{y+5}{-\frac{2}{3}} = x$$

$$\frac{y+5}{1} \cdot -\frac{3}{2} = \frac{3y+15}{2} = \boxed{-\frac{3x+15}{2}}$$

$$f(x) = -\frac{1}{2}(x+3)$$

$$y = -\frac{1}{2}(x+3)$$

$$\frac{y}{-\frac{1}{2}}$$

$$\frac{y}{-\frac{1}{2}} = x+3$$

$$\frac{y}{1} \cdot -\frac{2}{1} = -2y = x+3$$

$$-3 \qquad -3$$

$$-2y - 3 = x$$

$$x = -2y - 3$$

$$\boxed{f^{-1}(x) = -2x - 3}$$

$f(x) = 8x + 1$

$y = 8x + 1$

-1

$\frac{y-1}{8} = \frac{8x}{8}$

$x = \frac{y-1}{8} \Rightarrow \boxed{f^{-1}(x) = \frac{x-1}{8}}$

$h(x) = \frac{3}{2}(x-11)$

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

$\frac{y}{1} \cdot \frac{2}{3} = \frac{2y}{3} = x - 11$

$\frac{2y}{3} = x - 11$

$+11 \quad +11$

$\frac{2y}{3} + 11 = x$

$\boxed{h^{-1}(x) = \frac{2x}{3} + 11}$

$\left(2, \frac{1}{36}\right)$ and $\left(6, \frac{5}{36}\right)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{\frac{5}{36} - \frac{1}{36}}{6 - 2} = \frac{\frac{4}{36}}{4} = \frac{\frac{1}{9}}{4} = \frac{1}{9} \cdot \frac{1}{4}$$

$$= \boxed{\frac{1}{36}}$$

$\left(6, \frac{5}{36}\right)$ and $\left(7, \frac{6}{36}\right)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{\frac{6}{36} - \frac{5}{36}}{7 - 6} = \frac{\frac{1}{36}}{1} = \frac{1}{36} \cdot \frac{1}{1} = \boxed{\frac{1}{36}}$$

$g(x) = -2(x-4)$

$\frac{y}{-2} = \frac{-2(x-4)}{-2}$

$\frac{y}{-2} = x - 4$

$+4 \quad +4$

$\frac{y}{-2} + 4 = x$

$$\boxed{g^{-1}(x) = -\frac{x}{2} + 4}$$

$(7, 65)$ and $(11, 105)$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{105 - 65}{11 - 7} = \frac{40}{4} = 10$$

Unit Test

$h(x) = 6x + 100$

$h(-5) = 6(-5) + 100$

$= -30 + 100$

$\boxed{70}$

$g(t) = -9t - 4$

$-9t - 4 = 23$

$+4 \quad +4$

$\frac{-9t}{-9} = \frac{27}{-9}$

$\boxed{t = -3}$

$g(x) = \sqrt{x + 3}$

All real values such that $x \geq -3$

$f(x) = 3x - 2$

$y = 3x - 2$
$+2$

$\frac{y+2}{3} = \frac{3x}{3}$

$x = \frac{y+2}{3} \Rightarrow \boxed{f^{-1}(x) = \frac{x+2}{3}}$

$4 \cdot -6 - 6 \cdot -5$

$-24 + 30$

$\boxed{6}$

$7m + 2 = 6n - 5$
$+5 \quad +5$

$\frac{7m+7}{6} = \frac{6n}{6}$

$n = \frac{7m+7}{6}$

$\boxed{f(m) = \frac{7m+7}{6}}$

$(3,85)$ and $(7,99)$

$$\frac{y_2-y_1}{x_2-x_1} = \frac{99-85}{7-3} = \frac{14}{4} = 3.50$$

$(7,99)$ and $(9,110)$

$$\frac{y_2-y_1}{x_2-x_1} = \frac{110-99}{9-7} = \frac{11}{2} = \boxed{5.5}$$

$(-2,-1) \rightarrow (-1,-2)$

$(7,-6) \rightarrow (-6,7)$