GROUPWORK 1A 1.3

1. (a) $\begin{cases} y = -2x + 15 \\ y = 7x - 3 \end{cases}$

Solution

$y = -2x + 15$

$\frac{7x}{7} = \frac{y+3}{7}$

$x = \frac{y+3}{7}$

$y = -2\left(\frac{y}{7} + \frac{3}{7}\right) + 15$

$y = -\frac{2y}{7} - \frac{6}{7} + 15$

$y + \frac{2y}{7} = 15 - \frac{6}{7}$

$1\frac{2}{7}y = \frac{99}{7}$

$\frac{7}{9} \times \frac{9}{7}y = \frac{99}{7} \times \frac{7}{9}$

$y = 11$

$x = \frac{11+3}{7} = \frac{14}{7}$ 2

$x = 2, y = 11$

$x = 2$ when $y = 11$

b) $y = 3.5x - 0.5$

$y = -1.4x + 4.4$

Solution

$y = -1.4x + 4.4$

$\frac{3.5x}{3.5} = \frac{y + 0.5}{3.5} \quad \frac{3.5}{3.5}$

$x = \frac{y}{3.5} + \frac{0.5}{3.5}$

$y = -1.4\left(\frac{y}{3.5} + \frac{1}{7}\right)$

$y = \frac{-1.4}{3.5}y - \frac{1.4}{7}$

$y + \frac{1.4}{3.5} = -\frac{1.4}{7}$

$1\frac{2}{5}y = -\frac{1}{5}$

$\frac{5}{7} \times \frac{7}{5}y = -\frac{1}{5} \times \frac{5}{7}$

$y = -\frac{1}{7}$

$x = -\frac{1}{7} \times \frac{1}{3.5} + \frac{1}{7}$

$= \frac{1}{24.5} + \frac{1}{7}$ $x = 1$

$x = \frac{5}{49}, y = -\frac{1}{7}$

$x = 1$

$y = 3$

2) $w(t) = -1.7 \equiv 0.49$

$m(t)$

$07 = 4.20$

b) 57%

d) Not very confident because it looks a bit higher.

3] a) $H(t) = \$22,061 - t(\$2607)$

$S(t) = \$1460 + t(2300)$

$H(t) = \$22,061 - \$2607t$

$S(t) = \$1460 + 2300t$

b) $\$22061 = H(t) - \$2607t$

$\$1460 = S(t) + 2300t$

~~2060t~~ = 307t

2351 | 307

307

$t = 8$

$S(t) = \$1460 + 2300 \times 8$

$= \$ \sout{1460}$

$\$ = 19860$

$\$1460 + 2300(t) =$ 8 years

c] Center (0,0)

Angle 0 rad

Width: Hug

Opacity: 1

Height 10

d] Overstatement

Because the years are many the number of year would have been less