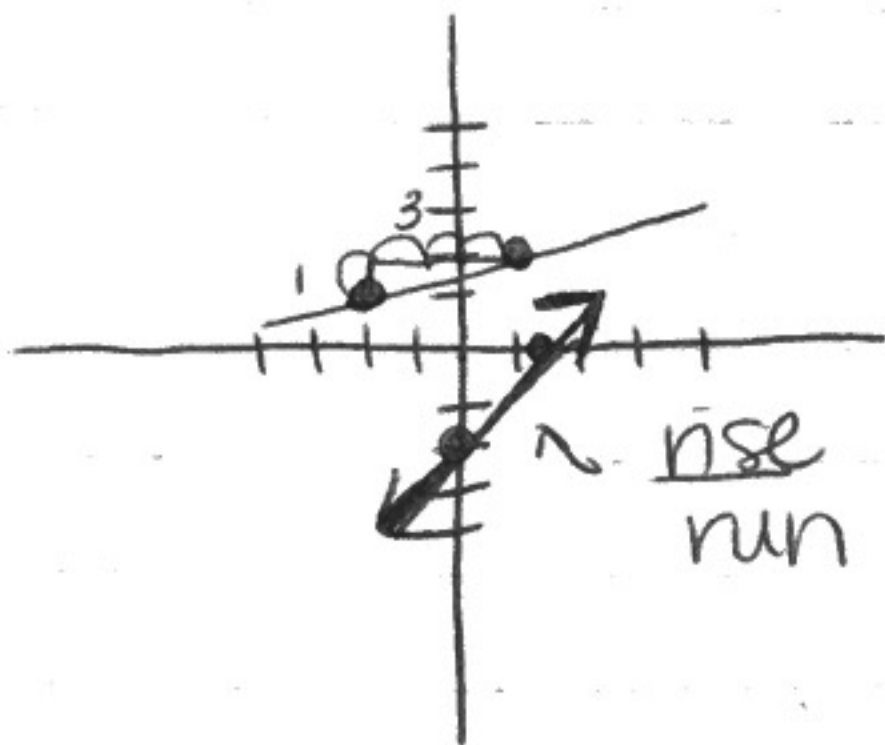


#25 - 28

(25)

Original slope =  $\frac{\text{rise}}{\text{run}} = \frac{1}{3}$



$\frac{\text{rise}}{\text{run}} = \frac{2}{1\frac{1}{3}} = \frac{2 \cdot 3}{1 \cdot 4} = \frac{6}{4} = \frac{3}{2}$

smaller  
 $\boxed{\frac{1}{3}} < \frac{3}{2}$

(B)

(26)

$T(a) = -0.0018a + 212$        $a = \text{altitude}$   
 ↑  
 x1000 (altitude)

$T = -1.8a + 212$   
 ↑  
 decreases

(D)

(27)

J(2, 4)      L(6, 8)       $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$   
 $x_1 \quad y_1$        $x_2 \quad y_2$

slope:  $\frac{y_2 - y_1}{x_2 - x_1} = \frac{8 - 4}{6 - 2} = \frac{4}{4} = 1$        $\left(\frac{2 + 6}{2}, \frac{4 + 8}{2}\right)$

$= 1$        $\left(\frac{8}{2}, \frac{12}{2}\right)$

Perpendicular slope = -1  
 (opposite reciprocal)

Mid-Point  $\left(\frac{4}{x_1}, \frac{6}{y_1}\right)$

(A)

Point-slope Form

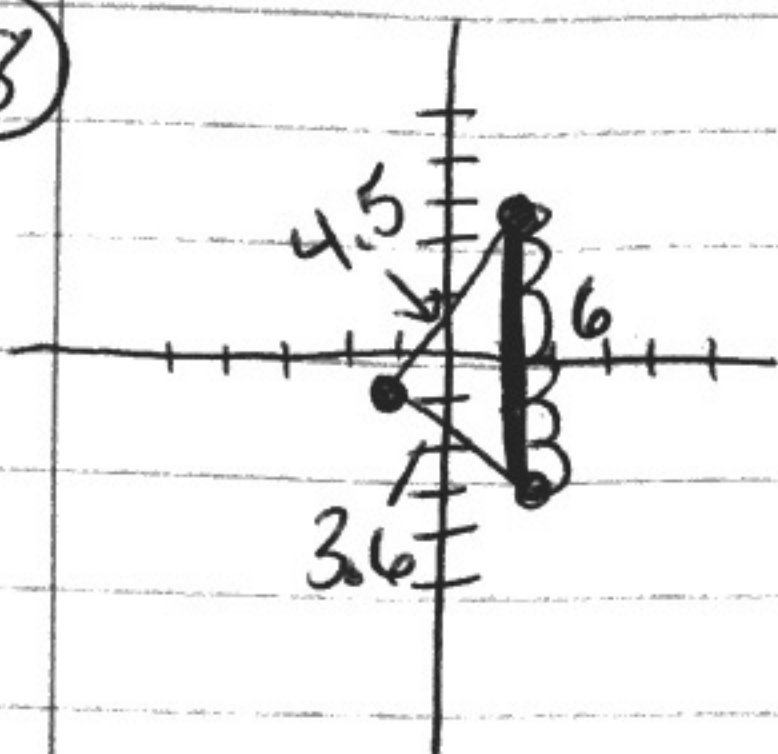
$y - y_1 = m(x - x_1)$

$y - 6 = -1(x - 4)$

$y - 6 = -x + 4$   
 $+6$        $+6$

$\boxed{y = -x + 10}$

28



$$\begin{aligned}
 & \begin{matrix} (1, 3) & (-1, 1) \\ x_1, y_1 & x_2, y_2 \end{matrix} \\
 C &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\
 &= \sqrt{(-1 - 3)^2 + (1 - 3)^2} \\
 &= \sqrt{(-4)^2 + (-2)^2} \\
 &= \sqrt{16 + 4} \\
 &= \sqrt{20} \\
 &= 4.5
 \end{aligned}$$

$$\begin{aligned}
 4.5 + 3.6 + 6 \\
 = 14.1
 \end{aligned}$$

(B 14)

$$\begin{aligned}
 & \begin{matrix} (-1, -1) & (2, -3) \\ x_1, y_1 & x_2, y_2 \end{matrix} \\
 C &= \sqrt{(2 - (-1))^2 + (-3 - (-1))^2} \\
 &= \sqrt{(3)^2 + (-3 + 1)^2} \\
 &= \sqrt{3^2 + (-2)^2} \\
 &= \sqrt{9 + 4} \\
 &= \sqrt{13} = 3.6
 \end{aligned}$$