In the xy plane, line **f** passes through the point (-1,6) and is perpendicular to the line with equation y=x-3 . Which of the following is an equation of the line **f**?

A) y=-x+3

B) y=-x+6

C) y=-x+5

D) y=x+7

E) y=x-1

Jul 25-11:13 AM

$$y = x - 3 \qquad m = 1$$

$$m_{\perp} = -\frac{1}{1} = -1$$

slope of line $= m$
slope of perpendicular
line $= -\frac{1}{m}$

f contains $(-1, 6)$

$$y - y_1 = m(x - x_1) \qquad \text{``point-slope''}$$

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

$$y - 6 = -x - 1$$

$$y = -x + 5 \qquad \copyright$$

Jul 25-11:17 AM
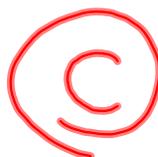
$$m_f = -1$$

$$y = -x + b$$

$$(-1, 6)$$

$$6 = -(-1) + b$$

$$5 = b$$

$$\boxed{y = -x + 5}$$

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Which of the following has a positive slope and negative x-interecept?

A)

B)

C)

D)

E)
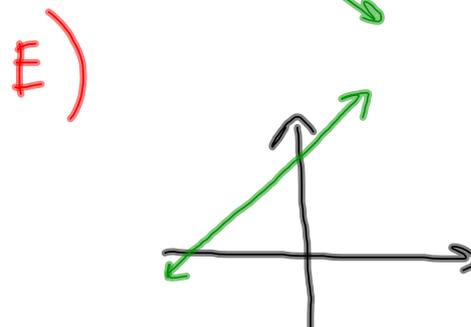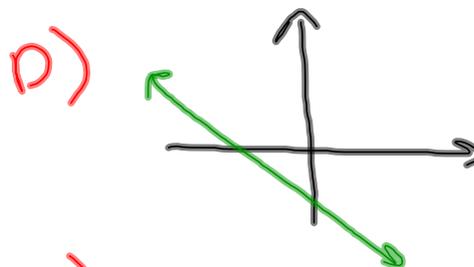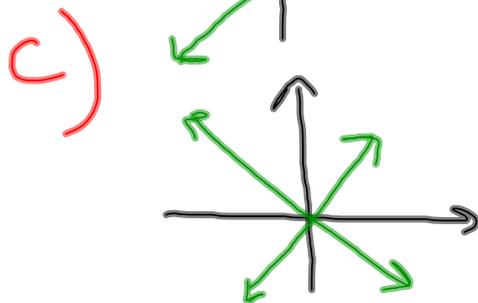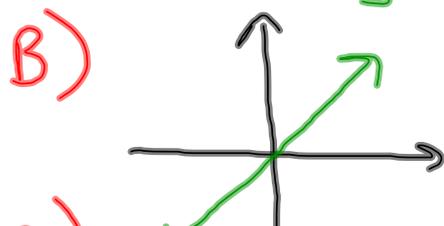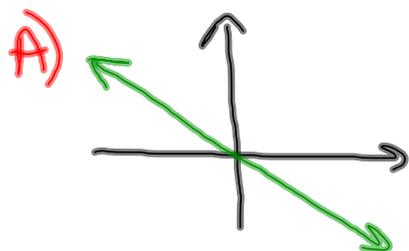
E

distance formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

midpoint formula

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Jul 25-11:25 AM

distance formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$$

$$d^2 = (\Delta x)^2 + (\Delta y)^2$$

$$c^2 = a^2 + b^2$$

c

(6,4)

Δy　b

(2,1)　(6,1)

Δx

a

Jul 17-10:52 AM

7

midpoint formula

$$\left(\frac{x_1 + x_2}{2} , \frac{y_1 + y_2}{2} \right)$$

$(4, 2.5)$

$\frac{4+1}{2} = \xi$

$(6, 4)$

$(2, 1)$

$\frac{2+6}{2}$
4