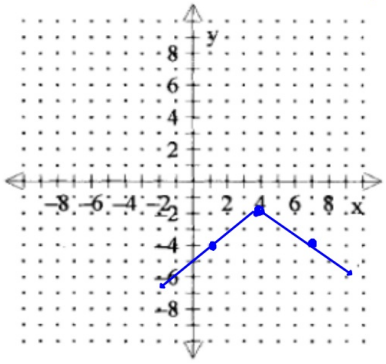
Graphing Practice

1. $y = \frac{-2}{3}|x - 4| - 2$ vertex $(4, -2)$



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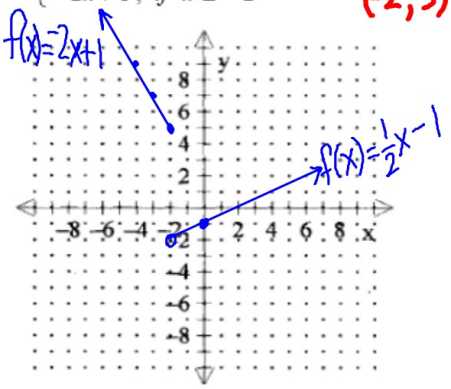
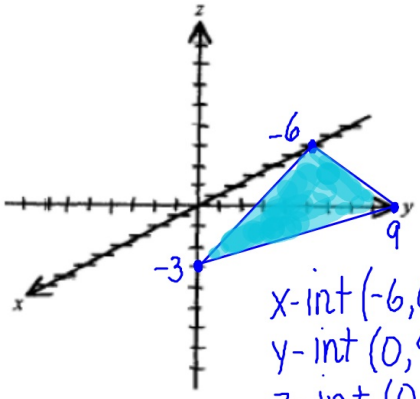
2. $f(x) = \begin{cases} \frac{1}{2}x - 1, & \text{if } x > -2 \\ -2x + 1, & \text{if } x \le -2 \end{cases}$ endpt $(-2, -2)$ $(-2, 5)$

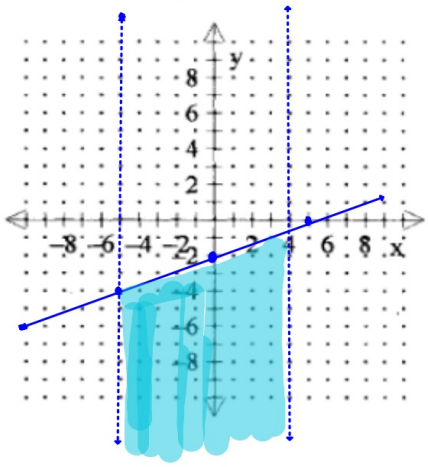


3. $-3x + 2y - 6z = 18$



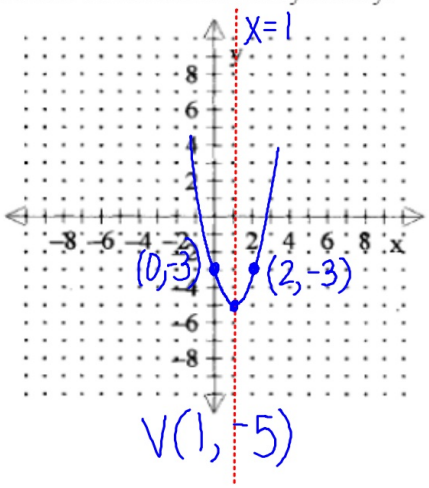
x-int $(-6, 0, 0)$
y-int $(0, 9, 0)$
z-int $(0, 0, -3)$

4. the system: $-5 < x < 4$, $2x - 5y \ge 10$



5. $y = 2x^2 - 4x - 3$

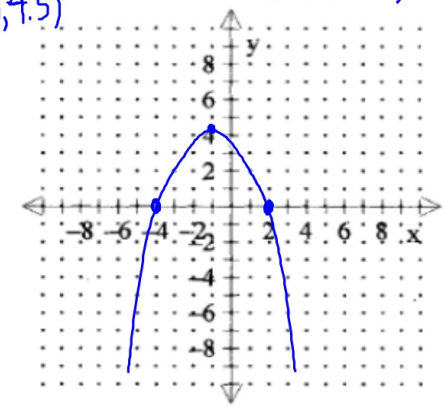
Locate vertex and axis of symmetry.



6. $y = \frac{-1}{2}(x+4)(x-2)$

Locate vertex and x-intercepts. (-4,0)(2,0)

(-1,4.5)



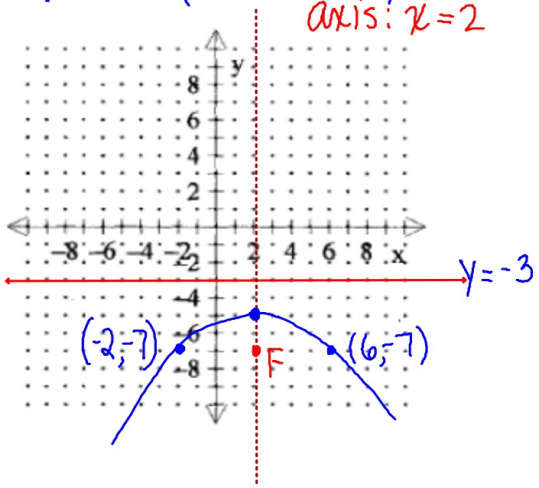
7. $y + 5 = \frac{-1}{8}(x-2)^2$

Locate vertex, focus, and directrix, and axis of symmetry.

$y = -\frac{1}{8}(x-2)^2 - 5$

V(2,-5) F(2,-7) d: $y = -3$

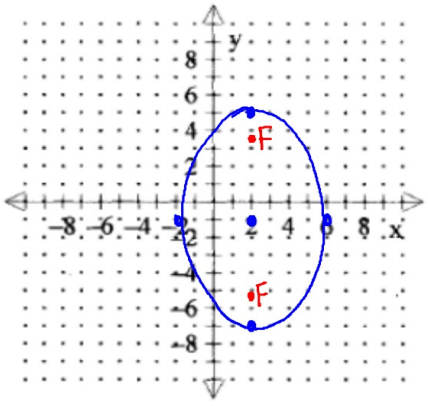
axis: $x = 2$



8. $\frac{(x-2)^2}{16} + \frac{(y+1)^2}{36} = 1$

Locate center, vertices, co-vertices, and foci.

C(2,-1) (2,5) (6,-1) (2,-1+2$\sqrt{5}$) (2,-7) (-2,-1) (2,-1-2$\sqrt{5}$)



9. $y^2 - 4y - 2x + 2 = 0$

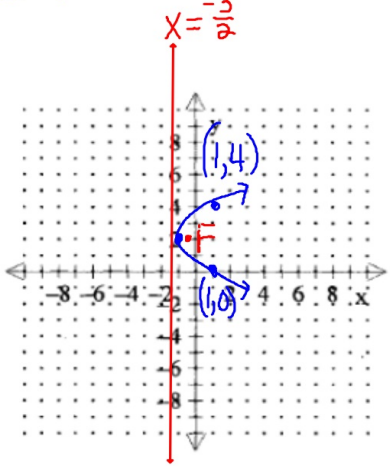
Locate vertex, focus, directrix, and axis of symmetry.

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

V(-1,2)

$F\left(-\frac{1}{2}, 2\right)$

D: $x = -\frac{3}{2}$



10. $y^2 - 3x^2 - 6x - 4y - 8 = 0$

Locate vertices, foci, and asymptotes.

$\frac{(y-2)^2}{9} - \frac{(x+1)^2}{3} = 1$

C(-1,2)

vertices

(-1,5)

(-1,-1)

Foci $(-1, 2+2\sqrt{3})$

$(-1, 2-2\sqrt{3})$