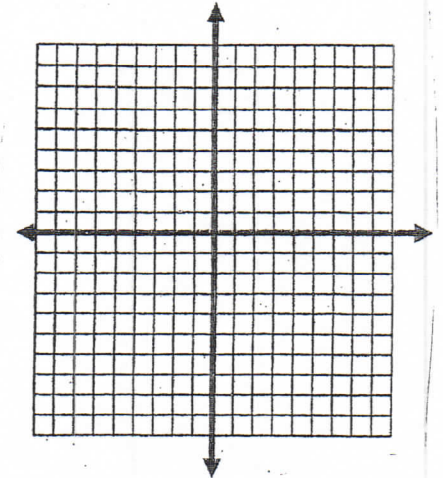


1) Simplify:  $\sqrt{4 + 3 \cdot 7} - 6 - 4^2$

2) Graph the quadratic  $y = 2x^2 - 8x + 3$



3) Solve  $\frac{1}{3}x - 4 = \frac{1}{2}$

4) Solve the system of linear equations

$$\begin{aligned} 2x + y &= 7 \\ 3x - y &= 8 \end{aligned}$$

5) Area Question: A rectangle garden has a *length* of  $2x$  feet and a *width* of  $(x + 8)$  feet. The *area* if the garden is 56 square feet (hint:  $\text{Area} = \text{length} \cdot \text{width}$ ).

- Find the value of  $x$
- What are the dimensions of the garden

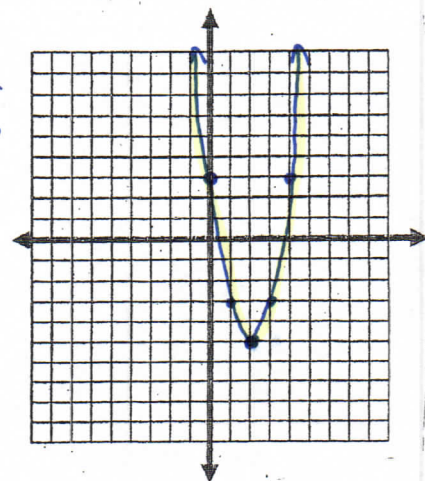
6) Solve by factoring or quadratic formula

$$2x^2 - 14x + 20 = 0$$

1) Simplify:  $\sqrt{4+3 \cdot 7} - 6 - 4^2$   
 $\sqrt{25} - 6 - 16$   
 $5 - 6 - 16$   
 $-17$

$a=2$   
 $1(a)=2$   
 $3(a)=6$   
 $5(a)=10$

vertex: (2, -5)



2) Graph the quadratic  $y = 2x^2 - 8x + 3$

$x = -\frac{b}{2a} \rightarrow x = \frac{-(-8)}{2(2)} \rightarrow x = \frac{8}{4} \rightarrow x = 2$

$y = 2(2)^2 - 8(2) + 3 \rightarrow y = 2 \cdot 4 - 16 + 3 \rightarrow y = 8 - 16 + 3 \rightarrow y = -5$

3) Solve  $\frac{1}{3}x - 4 = \frac{1}{2} + 4$   
 $\frac{1}{3}x = \frac{9}{2}$   
 $x = \frac{27}{2}$  or  $13\frac{1}{2}$  or  $13.5$

4) Solve the system of linear equations

$(3, 1)$

$$\begin{array}{r} 2x + y = 7 \\ 3x - y = 8 \\ \hline 5x = 15 \\ \hline x = 3 \end{array}$$

$$\begin{array}{r} 2x + y = 7 \\ 2(3) + y = 7 \\ 6 + y = 7 \\ \hline y = 1 \end{array}$$

5) Area Question: A rectangle garden has a length of  $2x$  feet and a width of  $(x + 8)$  feet. The area of the garden is 56 square feet (hint: Area = length  $\cdot$  width).

- Find the value of  $x$
- What are the dimensions of the garden

a.  $x \approx 2.6$

$A = l \cdot w$   
 $56 = 2x(x+8)$   
 $56 = 2x^2 + 16x$   
 $0 = 2x^2 + 16x - 56$

$x = \frac{-16 \pm \sqrt{(16)^2 - 4(2)(-56)}}{2(2)}$   
 $x = \frac{-16 \pm \sqrt{704}}{4}$   
 $x = \frac{-16 \pm 26.53}{4}$

b. length = 5.2 feet  
width = 10.6 feet

6) Solve by factoring or quadratic formula  $2x^2 - 14x + 20 = 0$

$2(x^2 - 7x + 10) = 0$

$2(x-5)(x-2) = 0$

$x-5=0$  and  $x-2=0$

$x=5$  and  $x=2$

\*  $a=1$   
 $b=-7$   
 $c=10$   
 ~~$(-5)(-2)$~~   
 ~~$-7$~~