

Graph each.

1.  $y = (x-3)^2 + 4$  vertex  $(3, 4)$

2.  $x = -2(y-4)^2 - 2$  vertex  $(-2, 4)$

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$x = -2(y-4)^2 - 2$  vertex  $(-2, 4)$

$y = (x-h) + k$

$x = -2(5-4)^2 - 2 = -2(1) - 2 = -4$

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Ellipse

$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$

$\frac{(x-5)^2}{169} + \frac{(y+2)^2}{25} = 1$

Center  $(5, -2)$

Vertices  $(h \pm a, k)$  and  $(h, k \pm b)$

Foci  $(h \pm c, k)$

$a^2 - b^2 = c^2$   
 $169 - 25 = 144$   
 $c = 12$

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$\frac{(x-4)^2}{9} + \frac{(y-4)^2}{169} = 1$

$144 - 169 = c$   
 $\sqrt{c} = \sqrt{25}$   
 $c = 5$

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$A = \begin{bmatrix} -7 & -2 & 5 \\ 1 & 1 & 0 \\ 5 & 2 & -3 \end{bmatrix}$

$-7 \begin{vmatrix} 1 & 0 \\ 2 & -3 \end{vmatrix} - (-2) \begin{vmatrix} 1 & 0 \\ 5 & -3 \end{vmatrix} + 5 \begin{vmatrix} 1 & 1 \\ 5 & 2 \end{vmatrix}$

$-7(-3) + 2(-3) + 5(-3)$

$21 - 6 - 15$   
 $21 - 21$   
 $0$

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$3 \times 3$

$A = \begin{bmatrix} 7 & 1 & 5 \\ 2 & 1 & 2 \\ -5 & 0 & -3 \end{bmatrix}$

Determinant

$7 \begin{vmatrix} 1 & 2 \\ 0 & -3 \end{vmatrix} - 1 \begin{vmatrix} 2 & 2 \\ -5 & -3 \end{vmatrix} + 5 \begin{vmatrix} 2 & 1 \\ -5 & 0 \end{vmatrix}$

$7(-3) - (-6 + 10) + 5(-10)$

$-21 - 4 + 25$   
 $0$

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Find Inverse of  $3 \times 3$

$$A = \begin{bmatrix} & & \\ & & \\ & & \end{bmatrix}$$

① determinant  
IF 0 - step doesn't have an inverse

② Adjusted Matrix

Nov 15-11:05 AM