

Match the equation of the ellipse with its graph.

Key

B $\frac{(x-1)^2}{64} + \frac{(y+3)^2}{36} = 1$

A $\frac{x^2}{16} + \frac{y^2}{64} = 1$

F $\frac{(x-1)^2}{36} + \frac{(y-3)^2}{64} = 1$

10. $\frac{(x+1)^2}{9} + \frac{(y-3)^2}{49} = 1$

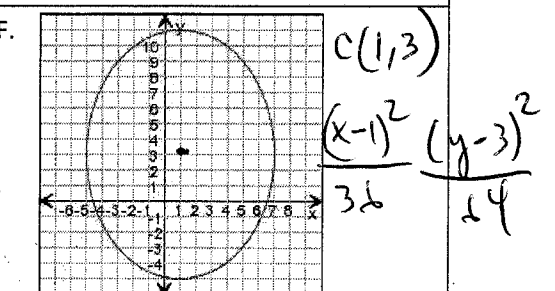
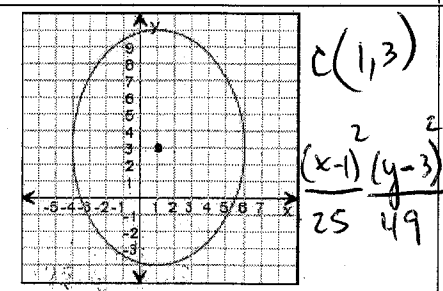
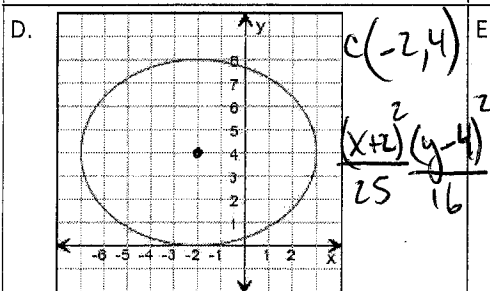
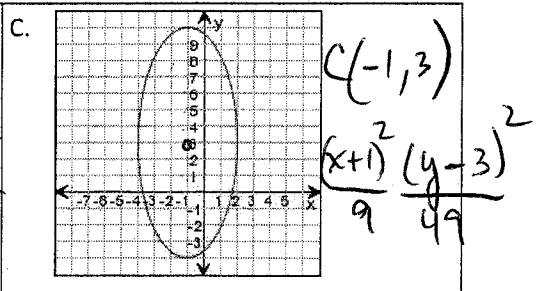
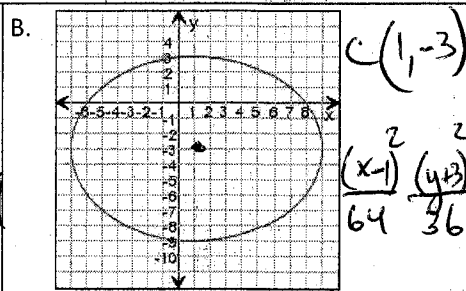
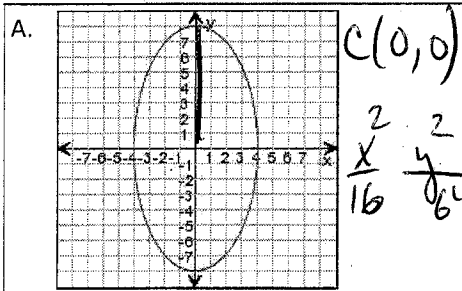
11. $\frac{(x-1)^2}{25} + \frac{(y-3)^2}{49} = 1$

12. $\frac{(x+2)^2}{25} + \frac{(y-4)^2}{16} = 1$

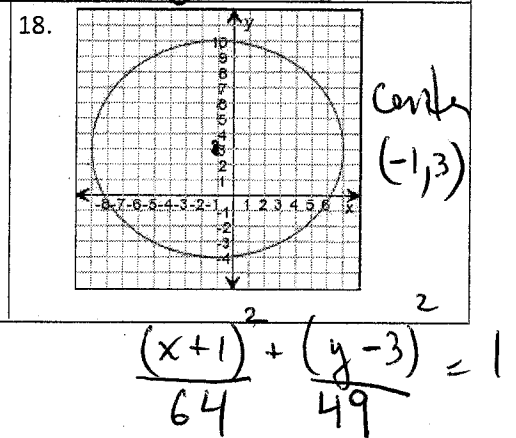
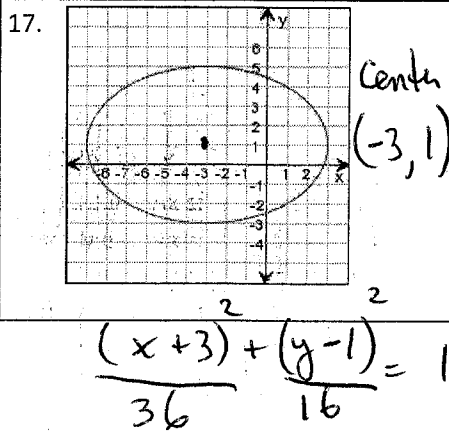
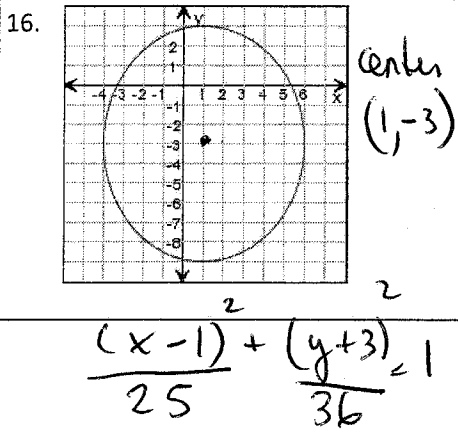
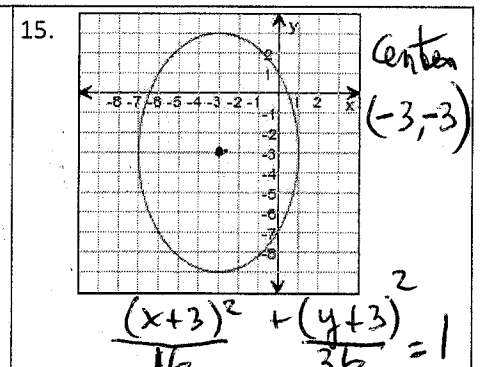
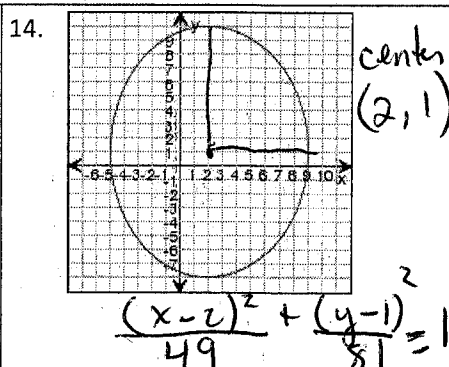
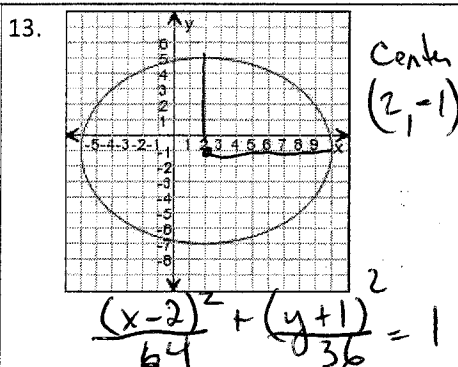
C

E

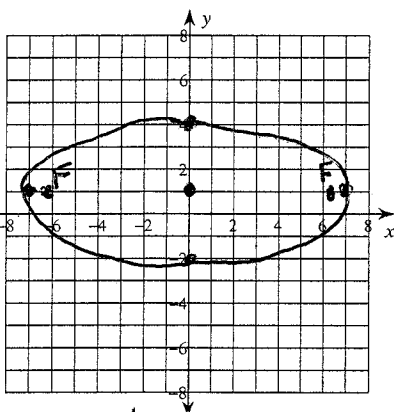
D



Write an equation for each graph.



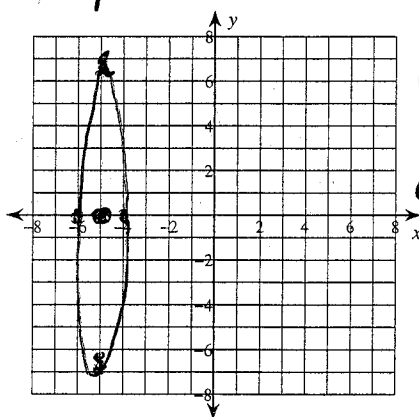
$$23) \frac{x^2}{49} + \frac{(y-1)^2}{9} = 1$$



$a = 7$
 $b = 3$
 $c = \sqrt{46}$
 ≈ 6.3

- 1) Horizontal
- 2) Center $(0, 1)$
- 3) major length: 14
- 4) minor length: 6
- 5) $c = \sqrt{46}$
- 6) $(\sqrt{46}, 1)$ $(-\sqrt{46}, 1)$ Foci

$$24) \frac{(x+5)^2}{1} + \frac{y^2}{49} = 1$$



$a = 7$
 $b = 1$
 $c = \sqrt{48}$
 ≈ 6.9

- 1) Vertical
- 2) Center $(-5, 0)$
- 3) major: 14
- 4) minor: 2
- 5) $c = \sqrt{48}$
- 6) foci $(-5, \sqrt{48})$ $(-5, -\sqrt{48})$

~~Identify the length of the major axis, length of the minor axis, length of the latus rectum, and eccentricity of each.~~

$$25) \frac{(x+2)^2}{10} + \frac{(y-8)^2}{20} = 1$$

- 1) Vert
- 2) $(-2, 8)$
- 3) major: $2\sqrt{20} \approx 8.9$
- 4) minor: $2\sqrt{10} \approx 6.3$
- 5) $c = \sqrt{10} \approx 3.2$
- 6) Foci $(-2, 11.2)$ $(-2, 4.8)$

$$26) \frac{(x-1)^2}{4} + \frac{(y+4)^2}{169} = 1$$

- 1) vert
- 2) $(1, -4)$
- 3) major: 26
- 4) minor: 4
- 5) $c = \sqrt{165} \approx 12.8$
- 6) F $(1, 8.8)$ $(1, -16.8)$

$$27) \frac{(x+4)^2}{4} + \frac{(y+9)^2}{64} = 1$$

- 1) vert
- 2) $(-4, -9)$
- 3) major: 16
- 4) minor: 4
- 5) $c = \sqrt{60} \approx 7.7$
- 6) F $(-4, -1.3)$ $(-4, -16.7)$

$$28) 126y + 9y^2 - 8x - 131 = -4x^2$$

$$\frac{(x-1)^2}{144} + \frac{(y+7)^2}{64} = 1$$

- 1) Horiz
- 2) $(1, -7)$
- 3) 24 major
- 4) 16 minor
- 5) $c = \sqrt{80} \approx 8.9$
- 6) F $(9.9, -7)$ $(-7.9, -7)$