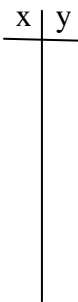
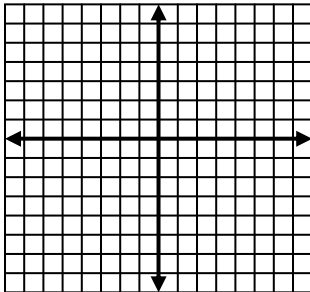


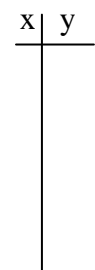
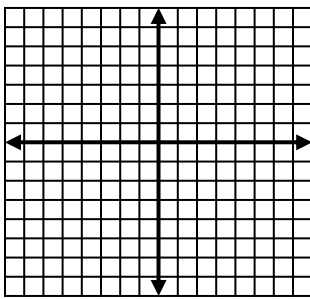
Accurately graph the parabola. State the vertex, domain, range, axis of symmetry, "a" value, and direction.

1. $x = -(y - 2)^2 + 1$



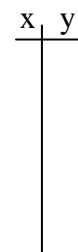
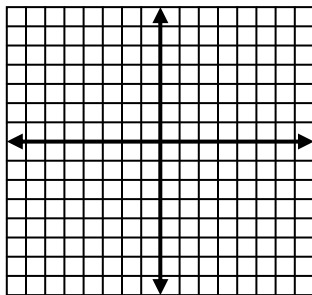
- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

2. $x = y^2 + 3$



- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

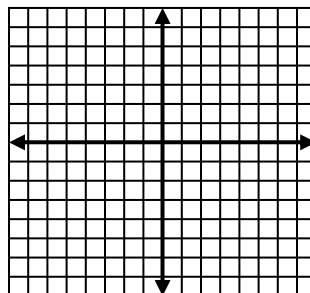
3. $y + 4 = 3(x - 1)^2$



- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

Not everything is in standard form, complete the square if necessary to put it into standard form.

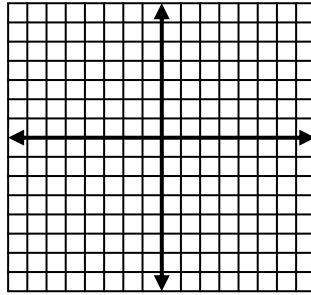
4. $y^2 - 8x = 0$



- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

Standard form:

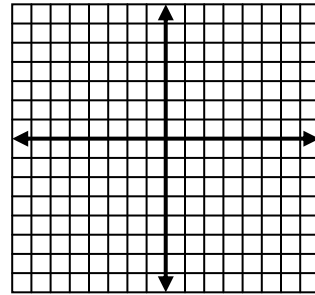
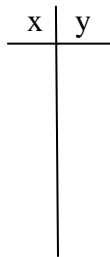
5. $y^2 - 8y + 8x = -16$



- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

Standard form:

6. $2x^2 - y + 20x = -53$



- a) the vertex(,)
- b) the axis of symmetry
- c) domain
- d) range
- e) "a" value
- f) direction of opening

Standard form:

Put in standard form only.

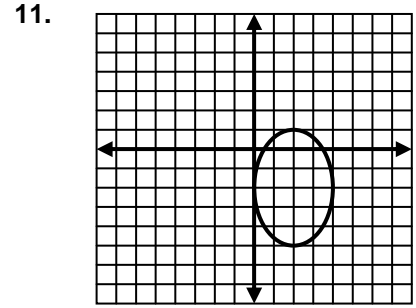
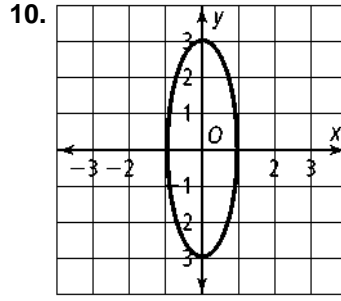
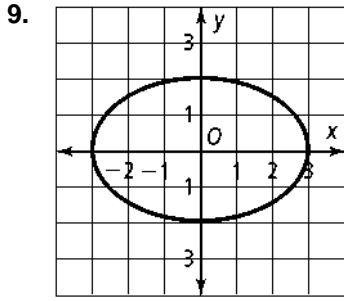
7. $x^2 - 8x - y + 19 = 0$

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

Standard form:

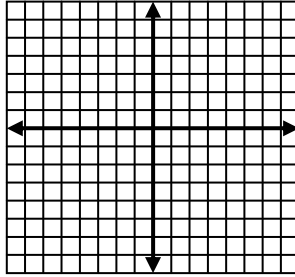
Standard form:

Write the equation for each ellipse.

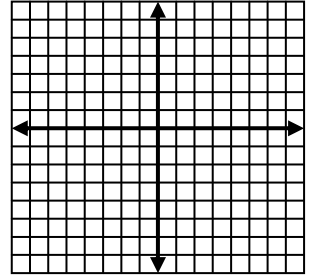


Put equation into standard form and find the vertices of the ellipse. Use the graph if necessary.

12. $16x^2 + 25y^2 = 1600$



13. $3x^2 + 6x + y^2 - 6y + 3 = 0$



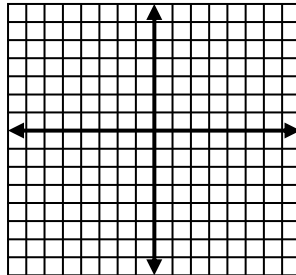
Standard form: _____

Standard form: _____

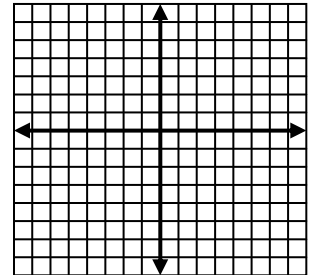
Vertices: _____

Vertices: _____

14. $x^2 + 4y^2 + 6x - 8y + 9 = 0$



15. $7x^2 + 3y^2 - 28x - 12y = -19$



Standard form: _____

Standard form: _____

Vertices: _____

Vertices: _____