

More problems for section 10.5/12.6 of *Calculus, Early Transcendentals* by James Stewart, 8e.

1. Graph the following conic sections in the  $xy$ -plane. Check your answers by using a graphing website such as desmos.com.

a.  $y = -3x^2$

b.  $x = 4y^2$

c.  $y - 2x^2 = 1$

d.  $x + 3y^2 = -2$

e.  $y + (x + 2)^2 - 1 = 0$

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

g.  $y - 1 = x^2 - 6x$

h.  $x = 4y^2 + 4y + 1$

i.  $y = x^2 + 8x + 15$

j.  $y = 2x^2 + 4x + 3$

k.  $x^2 + 4y^2 = 1$

l.  $\frac{1}{9}x^2 + \frac{1}{2}y^2 = 1$

m.  $4x^2 + \frac{1}{4}y^2 = 4$

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

o.  $\frac{1}{9}(x + 2)^2 + y^2 = 1$

p.  $x^2 + 2x + \frac{1}{4}y^2 + 3y = -1$

q.  $\frac{1}{2}x^2 - 4x + y^2 + 6y + 1 = 2$

r.  $x^2 - \frac{1}{9}y^2 = 1$

s.  $\frac{1}{4}y^2 - x^2 = 1$

t.  $\frac{1}{9}x^2 - 2y^2 = 1$

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

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

w.  $y^2 - 2y - 2x^2 - 4x = 2$

x.  $x^2 + 6x - 2y^2 - 12y = 1$