

Precalc 10.8


$$x^2 + y^2$$

.

Graph and solve 2nd degree
systems

equation

inequality

2nd degree

test point

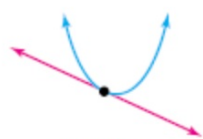
activity: toothpicks and curves
curves and curves

graphing calculator solutions

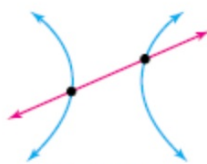
toothpicks



no
solution



1 solution

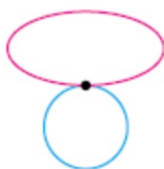


2 solutions

$(-2, ?)$ $(2, ?)$



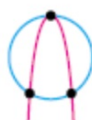
no
solution



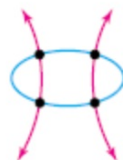
1 solution



2 solutions



3 solutions



4 solutions

p. 682 13-23 all

1 a. Graph the system of equations. Use the graph to find approximate solutions.

b. Solve the system algebraically.

$9x^2 + 25y^2 = 225$
 $x^2 + y^2 - 2x = 15$ $x^2 - 2x + 1 + y^2 = 16$
 $(x-1)^2 + y^2 = 16$

$$\frac{9x^2}{225} + \frac{25y^2}{225} = 1$$

$$\frac{x^2}{25} + \frac{y^2}{9} = 1$$

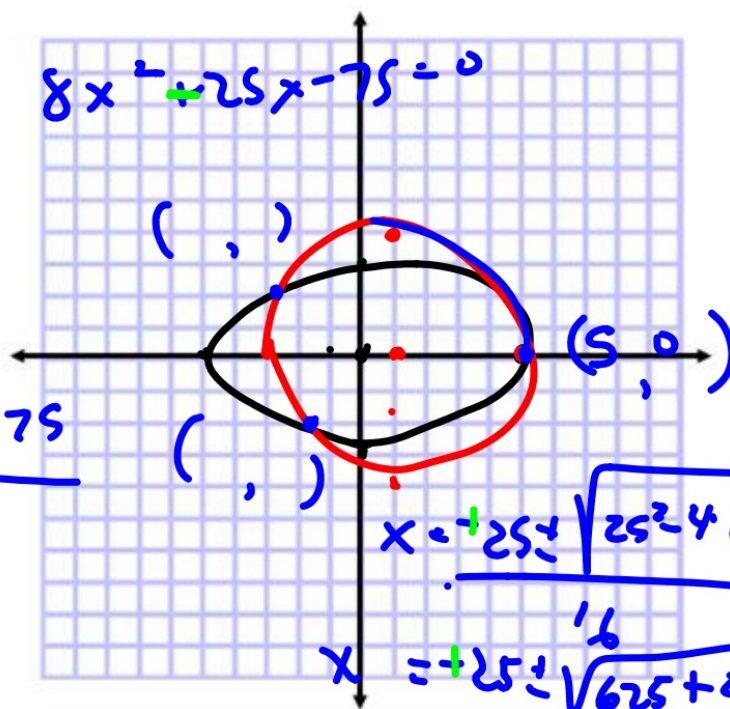
$$9x^2 + 25y^2 = 225$$

$$-25x^2 - 25y^2 - 50x = -375$$

$$-16x^2 + 50x = -150$$

$$\frac{-16x^2}{2} - \frac{50x}{2} + \frac{150}{2} = \frac{0}{2}$$

lost (-) sign -
 will post corrections
 to rooms.



$$x = \frac{-25 \pm \sqrt{25^2 - 4(-16)(-150)}}{2(-16)}$$

$$x = \frac{-25 \pm \sqrt{625 + 2400}}{32}$$

$$x = 1.875 \quad x = \frac{-25 \pm 55}{16}$$

$$x = 5$$

(number sold)(price) = income

x = number sold

y = price

- 2 SALES** During the month of January, Photo World collected \$2700 from the sale of a certain camera. After lowering the price by \$15, the store sold 30 more cameras and took in \$3375 from the sale of this camera the next month.

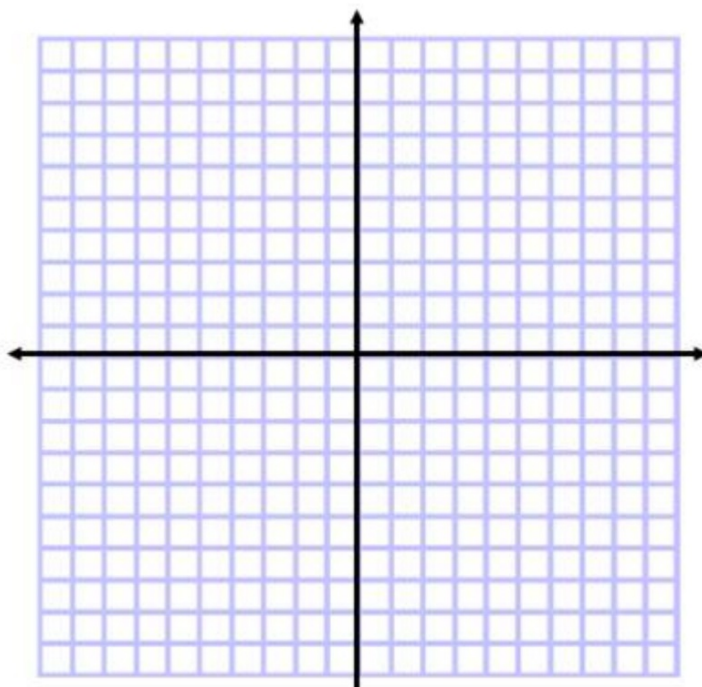


Standard form
Test point & shade

3 Graph the solutions for the system of inequalities.

$$x^2 + 4y^2 \leq 4$$

$$x^2 > y^2 + 1$$



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$$3x^2 = 9 - y^2$$

$$x^2 + 2y^2 = \frac{10}{3}$$

$$3x^2 + y^2 = 9$$

$$3x^2 - 6y^2 = -30$$

$$-6y^2 = -21$$

$$y^2 = 4.2$$

$$y = \pm 2.05$$

$$\frac{3x^2}{9} + \frac{y^2}{9} = \frac{9}{9}$$

$$\frac{x^2}{3} + \frac{y^2}{9} = 1$$

$$\frac{x^2}{10} + \frac{y^2}{5} = 1$$

$$x^2 + 8.405 = 10$$

$$x^2 = 1.595$$

$$x = \pm 1.26$$

$$(-1.26, 2.05)$$

$$(1.26, 2.05)$$

$$(-1.26, -2.05)$$

$$(1.26, -2.05)$$

