1.1 | 1.2 | 1.3 | 1.4 ▶RAD AUTO REAL

Equations of Lines

In each of the following exercises, you are given information about a line and then asked to find its equation.

To check your solution, place the equation of the line in the function entry line at the bottom of each page.

If needed, adjust your equation until you find the correct answer.

1.1 | 1.2 | 1.3 | 1.4 ▶RAD AUTO REAL

1. Find the equation of the line that passes through the given points.

1.1 | 1.2 | 1.3 | 1.4 ▶RAD AUTO REAL

$(1,8)$

$(5,3)$

$f1(x)=$

1.1 | 1.2 | 1.3 | 1.4 ▶RAD AUTO REAL

$(5,5)$

$(-7,-1)$

$f1(x)=$

1.2 | 1.3 | 1.4 | 1.5 ▶RAD AUTO REAL

2. Find the equation of the line with the given slope that passes through the given line.

1.3 | 1.4 | 1.5 | 1.6 ▶RAD AUTO REAL

$(-4,5)$

$slope=-0.7$

$f1(x)=$

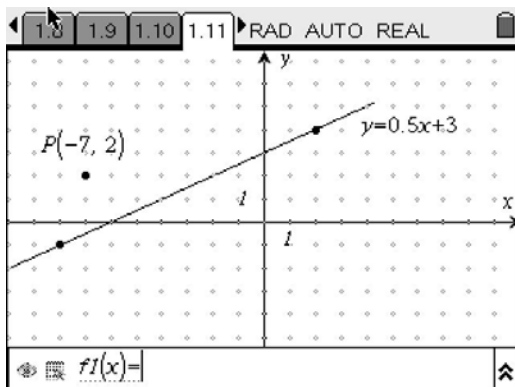1.4 | 1.5 | 1.6 | 1.7 ▶RAD AUTO REAL

$(0,3)$

$slope=\dfrac{1}{3}$

$f1(x)=$

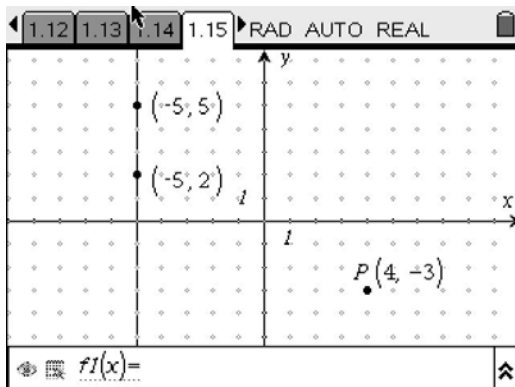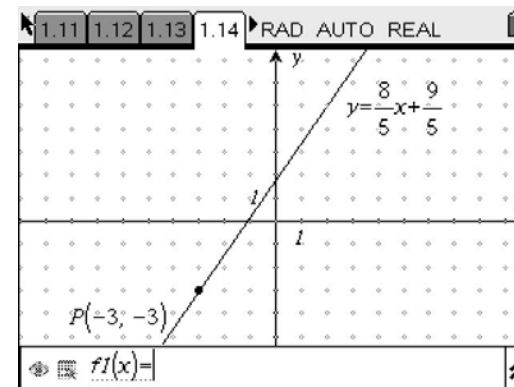1.5 | 1.6 | 1.7 | 1.8 ▶RAD AUTO REAL

$(-6,2)$

$slope=0$

$f1(x)=$

3. Find the equation of the line parallel to the given line that passes through point P.

y

$(0, 5)$

l

$P(3,0)$ x

l

$(-7, 0)$

$f1(x)=$

y

$P(-7, 2)$ $y=0.5x+3$

l x

l

$f1(x)=$
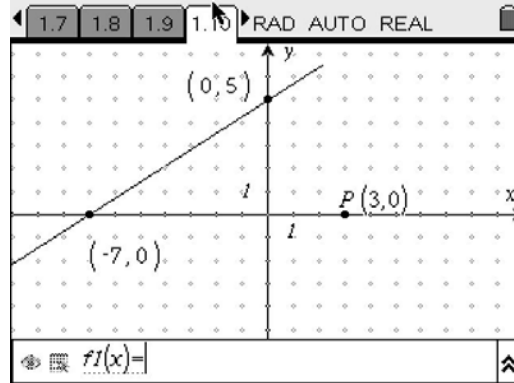
4. Find the equation of the line that is perpendicular to the given line and passes through point P.

y

$P(3, 5)$

$(-7, 2)$

l

l x

$(5, -1)$

$f1(x)=$

y

$y=\dfrac{8}{5}x+\dfrac{9}{5}$

l

l x

$P(-3, -3)$

$f1(x)=$

y

$(-5, 5)$

$(-5, 2)$

l x

l

$P(4, -3)$

$f1(x)=$
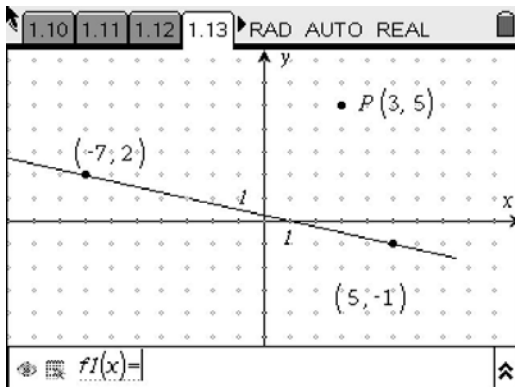
1. Which line(s) are parallel to $5x + 2y = 9$? Mark all correct answers.

- ☐ A. $y = -2.5x + 7$
- ☐ B. $5x + 2y = 0$
- ☐ C. $2x + 5y = 10$
- ☐ D. $5x + 5y = 7$
- ☐ E. $5y = 2x$
- ☐ F. $2x - 5y = 12$

2. Which line is parallel to $5x + 2y = 9$ and passes through the origin.

- ◯ A. $y = -2.5x + 7$
- ◯ B. $5x + 2y = 0$
- ◯ C. $2x + 5y = 10$
- ◯ D. $5x + 5y = 7$
- ◯ E. $5y = 2x$
- ◯ F. $2x - 5y = 12$

3. Which line(s) are perpendicular to $5x + 2y = 9$? Mark all correct answers.

- ☐ A. $y = -2.5x + 7$
- ☐ B. $5x + 2y = 0$
- ☐ C. $2x + 5y = 10$
- ☐ D. $5x + 5y = 7$
- ☐ E. $5y = 2x$
- ☐ F. $2x - 5y = 12$

4. Which line is perpendicular to $5x + 2y = 9$ and passes through the origin?

- ◯ A. $y = -2.5x + 7$
- ◯ B. $5x + 2y = 0$
- ◯ C. $2x + 5y = 10$
- ◯ D. $5x + 5y = 7$
- ◯ E. $5y = 2x$
- ◯ F. $2x - 5y = 12$

5. Which of the following line(s) are parallel to $y = 7$? Mark all correct answers.

- ☐ A. $y = 9$
- ☐ B. $x = 0$
- ☐ C. $x = 7$
- ☐ D. $y = x$

6. Which of the following line(s) are perpendicular to $y = 7$? Mark all correct

- ☐ A. $y = 9$
- ☐ B. $x = 0$
- ☐ C. $x = 7$
- ☐ D. $y = x$