

CL 1-88. Find $f(4)$ for each function below.

a. $f(x) = -|x - 7| + 3$

b. $6 - (5x - 9)^2$ for $x = 1$

c. $f(x) = 2 - \sqrt[3]{x + 23}$

c. $\frac{-4}{k+7}$ for $k = -8$

e. If (c) were $f(k) = \frac{-4}{k+7}$, what value of k would be excluded from the domain?

CL 2-106. Write a rule for the given tile pattern. How many tiles will be in figure 58?



Figure 1

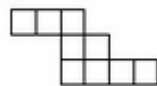


Figure 2

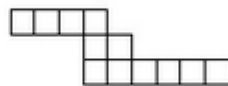


Figure 3

CL 10-143. Solve the equations below using any method. How many solutions does each problem have?

a. $\frac{x}{2} + \frac{x}{3} = 2$

b. $\sqrt{x-5} + 10 = 15$

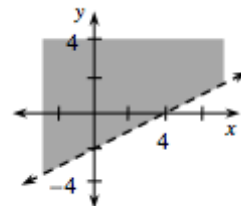
c. $|x - 7| = 22$

d. $(3x + 7)^2 = 144$

CL 10-152. Write an inequality to represent this situation.

If apples cost \$0.75 each and oranges cost \$0.50 each, what combinations of the fruits can be bought for under \$10?

CL 9-120. Write an inequality that represents the graph at right.



CL 9-121. Is the point $(0, 4)$ a solution to the system of inequalities below? Justify your answer.

$$y \leq -3x + 4$$

$$y > x^2 + 3x - 2$$

CL 9-122. Factor these quadratic expressions completely, if possible.

a. $x^2 + x - 30$

b. $-3x^3 + 23x^2 - 14x$

c. $2x^2 - 5x + 4$

CL 9-123. Solve each inequality below for the given variable. Then represent each solution on a number line.

a. $4x - 3 \geq 9$

b. $3(t + 4) < 5$

c. $\frac{2y}{7} < 8$

d. $5x + 4 > -3(x - 8)$

CL 9-127. Graph the system of inequalities below on graph paper.

$$y < x^2$$

$$y \geq x + 2$$

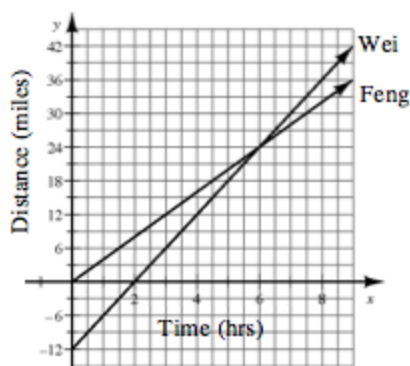
CL 8-112. Factor and use the Zero Product Property to find the roots of the following quadratic equations.

a. $0 = x^2 - 7x + 12$

b. $0 = 6x^2 - 23x + 20$

c. $0 = x^2 - 9$

d. $0 = x^2 + 12x + 36$



CL 8-114. Use the graph at right to answer the questions below.

- One of these lines represents Feng, and one represents Wai. Write an equation for each girl's line.
- The two girls are riding bikes. How fast does each girl ride?
- When do Feng and Wai meet? At that point, how far are they from school?

CL 8-117. Without using a calculator, simplify using only positive exponents.

- $(9^{1/2}x^2y)(27^{1/3}y^{-1})$
- $(x^{1/2})^{-2}$
- $\frac{x^2y^3}{x^2y^{-1}}$
- $\frac{4 \times 10^5}{8 \times 10^7}$

CL 8-119. Given the two points $(-24, 7)$ and $(30, 25)$,

- What is an equation of the line passing through the points?
- Is $(51, 33)$ also on the same line? Explain your reasoning?

CL 5-131. Use a graph to describe the domain and range of each function or sequence below.

- The function $f(x) = (x - 2)^2$

CL 4-118. Solve these systems of equations using any method.

- $$y = 3x + 7$$

$$y = -4x + 21$$
- $$3x - y = 17$$

$$-x + y = -7$$
- $$x = 3y - 5$$

$$2x + 12y = -4$$

CL 3-116. For each equation below, solve for x .

- a. $(x - 1)(x + 7) = (x + 1)(x - 3)$
- b. $2x - 5(x + 4) = -2(x + 3)$
- c. $|x + 7| = 11$
- d. $|2x - 3| = 23$

CL 4-125. Rewrite each expression below as a product and as a sum.

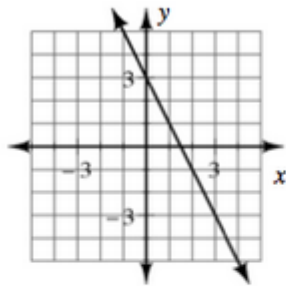
- a. $(x + 7)(2x - 5)$
- b. $5x(y - 7)$
- c. $(3x - 7)(x^2 - 2x + 11)$

CL 3-113. Two brothers, Martin and Horace, are in their backyard. Horace is taking down a brick wall on one side of the yard while Martin is building a brick wall on the other side. Martin lays 2 bricks every minute. Meanwhile, Horace takes down 3 bricks each minute from his wall. They both start working at the same time. It takes Horace 55 minutes to finish tearing down his wall.

- a. How many bricks were originally in the wall that Horace started tearing down?
- b. Represent this situation with equations, tables, and a graph.
- c. When did the two walls have the same number of bricks?

CL 3-119. Determine the equation of each line from the given representation.

a.



- b. A line with a slope $-\frac{2}{3}$ and passes through the point $(-3, 4)$.
- c.

x	-4	-3	-2	-1
y	-11	-9	-7	-5