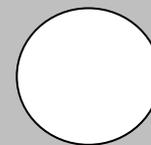
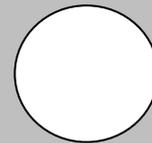


A.SSE.2 – Use the structure of expressions to rewrite them

1. Write an expression that is equivalent to $(-4g^2 + 2g - 3) + (-2g^2 + g + 7)$, combining all like terms
2. Write an expression that is equivalent to $(19x^2 - 17x + 11) - (2x^2 - 9) + (11x - 3)$, combining all like terms.
3. Select all expressions equivalent to $5x(x + 3) - (x^2 + 3x - 4)$:
 - $4x^2 - 3x + 11$
 - $4x^2 + 3x + 11$
 - $5x^2 + 15x - x^2 - 3x + 4$
 - $5x(x) + 5x(3) + (-1)(x^2) + (-1)(3x) + (-1)(-4)$
 - $5x^2 + 3x + 11$
 - $4x^2 + 12x + 4$
4. Simplify the product $3(7x^2 - 2x + 4)$
 - What is the leading coefficient of the new expression?
 - What is the degree of the new expression?
 - How many terms are in the new expression?

A.REI.1 – Explain each step in solving an equation

Juhee worked the following problem. Is Juhee's process and answer correct? If you disagree with Juhee's process and answer, circle the step(s) with the mistake, explain his mistake(s) and then correctly work the problem.

Juhee's Work:

$$2 - (x + 7) = -23$$

Step 1: $2 - x + 7 = -23$

Step 2: $9 - x = -23$

Step 3: $9 - x + 9 = -23 + 9$

Step 4: $-x = -14$

Step 5: $-1(-x) = (-1)(-14)$

Answer: $x = 14$

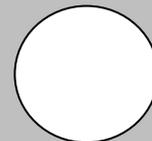
Explain and correct:

Explain the math step used to obtain the equation shown in step 2. Then finish the problem.

Step 1: $7 - 3(2x + 5) = 12$

Step 2: $7 - 6x - 15 = 12$

When you state the step, now, finish the problem.

A.REI.3 – Solve equations and inequalities

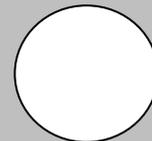
1. $4(2x - 3) = 3 + 8x - 11$

2. $\frac{3x+2}{5} - 7 + 18 = -4$

3. $4(x - 1) < 2(x + 8)$

4. $\frac{-3x-1}{5} \leq 7$

F.IF.2 – Use function notation to evaluate functions.

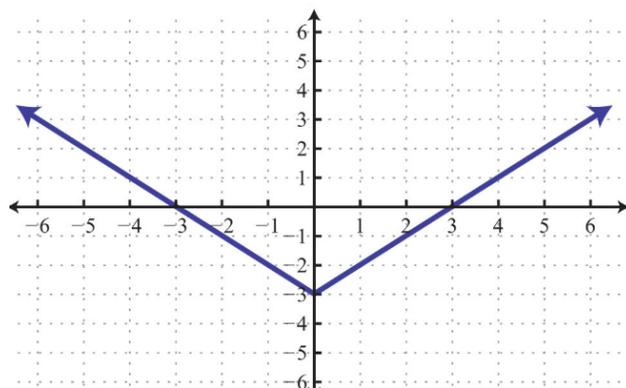


. Evaluate the following functions. Show your work.

a. $a(x) = 3.2x + 8$, What is the value of $a(-2.7)$?

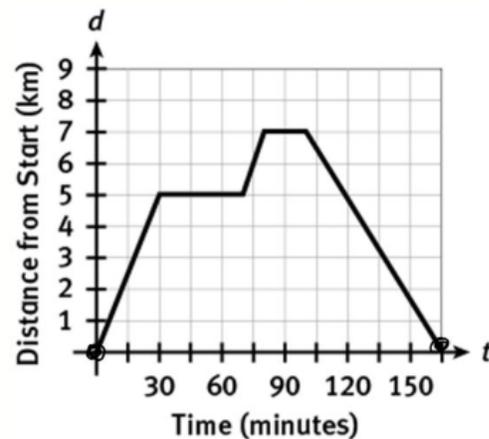
b. $b(x) = -2x^2 - 1$, What is the value of $b(3)$?

c. The graph of a function is shown below. What is the value of $f(-1)$?



2. Nick makes home deliveries of groceries for a supermarket. His only stops after he leaves the supermarket are at traffic lights and the homes where he makes the deliveries. The graph shows his distance from the store on his first trip of the day.

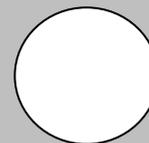
a. What is Nick's distance from the store 45 minutes after leaving the store? (F.IF.A.2)



Your favorite Flip Flops are on sale, 2 for \$3.00. The shipping is a flat rate of \$5.00 no matter how many Flip Flops you buy. $c(f) = \frac{3}{2}f + 5$ is the function where $c(f)$ is the total cost and f represents the number of Flip Flops. The max you can spend is \$75.

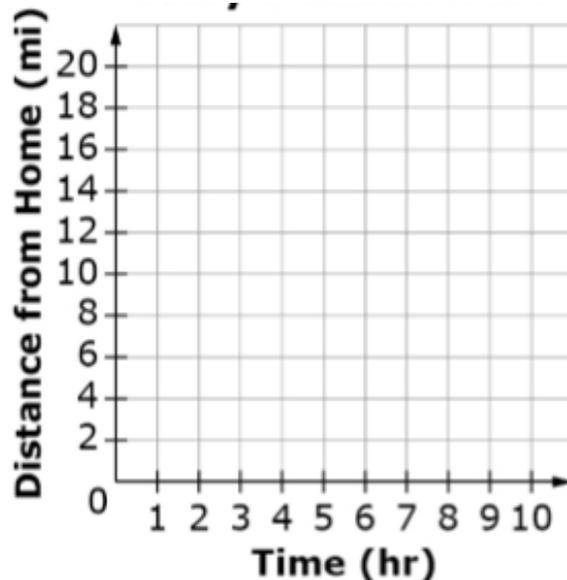
a. What is your total if you purchase 16 flip flops? (F.IF.A.2)

F.IF.4 – Interpret key features of a graph within a context.



1. Thomas is 18 miles from his home. He is returning home, walking at a constant rate of 2 miles per hour for the first 3 hours, then rests on a park bench for 1 hour, he then decides run at a rate of 6 miles per hour for 1 hour, then he rests for 1 hour, and then he walks the rest of the way home at 2 miles per hour. His distance from home can be modeled as a function of time.

Draw a graph to represent the function of Thomas walking home. (F.IF.B.4)



John makes DVD's for his friend's shows. He has realized that, because of his fixed costs, his average cost per DVD depends on the number of DVDs he produces. The cost of producing x DVDs is given by the equation $C(x) = 2500 + 1.25x$

- a. John wants to figure out how much to charge his friend for the DVDs. He's not trying to make any money, but he wants to cover his costs. Suppose John made 100 DVDs. What is the cost for producing this many DVDs? How much is this per DVD?
- b. John is hoping to make many more than 100 DVDs for his friends. Complete the table showing his costs at different levels of production.

# of DVDs	0	10	100	1,000	10,000	100,000
Total Cost						
Cost per DVD						