F-IF.A: Skills Practice Problems
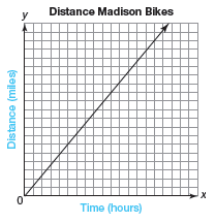
1.2 #13-18

Label the axes of the graph that models each scenario with the independent and dependent quantities.

13. Madison enjoys bicycling for exercise. Each Saturday she bikes a course she has mapped out around her town. She averages a speed of 12 miles per hour on her journey.


Distance Madison Bikes

14. Natasha is filling the bathtub with water in order to give her dog Buster a bath. The faucet fills the tub at an average rate of 12 gallons per minute.


Amount of Water in Bathtub
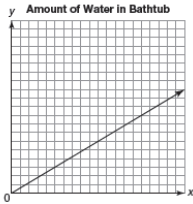
15. Marcus throws a football straight up into the air. After it reaches its maximum height of 20 feet, it descends back to the ground.


Football Height
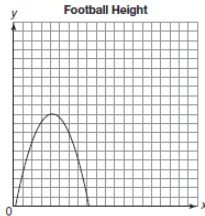
16. Chloe is using a pump to drain her backyard pool to get ready for winter. The pump removes the water at an average rate of 15 gallons per minute.

Amount of Water in Pool
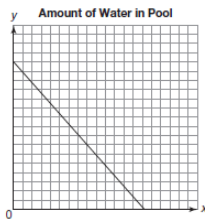
17. Jermaine is saving money to purchase a used car. He places $850 dollars in a savings account that earns 1.65% interest annually.

Interest Earned
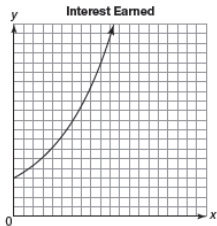
18. Zachary enjoys hiking. On the first day of his latest hiking trip, he hikes through flat terrain for about 8 miles. On the second day, he hikes through very steep terrain for about 3 miles. On the third day he hikes through some hilly terrain for about 6 miles.

Distance Hiked
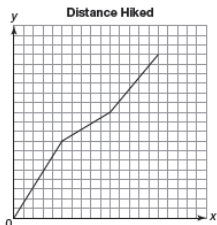
2.1 #19-24

Solve each function for the given input value. The function $A(t) = 7t$ represents the total amount of money in dollars Carmen earns babysitting as a function of time in hours.

19. $A(3) =$ _____
$A(3) = 7(3)$
$= 21$
Carmen earns $21 when she babysits for 3 hours.

20. $A(2) =$ _____

21. $A(5) =$ _____

22. $A(4.5) =$ _____

23. $A(3.5) =$ _____

24. $A(6) =$ _____

5.2 #1-6

Write a function that represents each population as a function of time.

1. Blueville has a population of 7000. Its population is increasing at a rate of 1.4%.
$P(t) = P_0 \cdot (1 + r)^t$
$P(t) = 7000 \cdot (1 + 0.014)^t$
$P(t) = 7000 \cdot 1.014^t$

2. Youngstown has a population of 12,000. Its population is increasing at a rate of 1.2%.

3. Greenville has a population of 8000. Its population is decreasing at a rate of 1.75%.

4. North Park has a population of 14,000. Its population is decreasing at a rate of 3.1%.

5. West Lake has a population of 9500. Its population is increasing at a rate of 2.8%.

6. Springfield has a population of 11,500. Its population is decreasing at a rate of 1.25%.

5.2 #19-24: Complete each table of values.

19. $f(x) = 2^x$

x	f(x)
−2	$\frac{1}{4}$
−1	$\frac{1}{2}$
0	1
1	2
2	4

20. $f(x) = 4^x$

x	f(x)
−2	
−1	
0	
1	
2	

21. $f(x) = \frac{1}{3}^x$

x	f(x)
−2	
−1	
0	
1	
2	

22. $f(x) = \frac{1}{4}^x$

x	f(x)
−2	
−1	
0	
1	
2	

23. $f(x) = -2 \cdot 2^x$

x	f(x)
−2	
−1	
0	
1	
2	

24. $f(x) = -2 \cdot \frac{1}{2}^x$

x	f(x)
−2	
−1	
0	
1	
2	