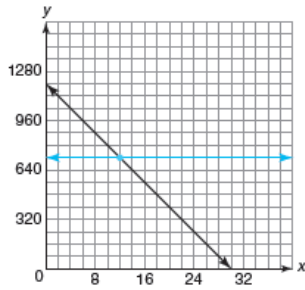


A-REID: Skills Practice Problems

2.2 #13-18

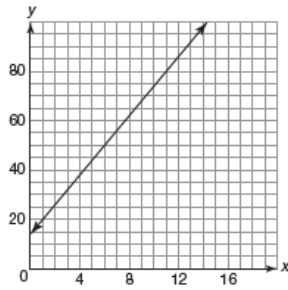
Sketch the line for the dependent value to estimate each intersection point.

13. $f(x) = -40x + 1200$ when $f(x) = 720$

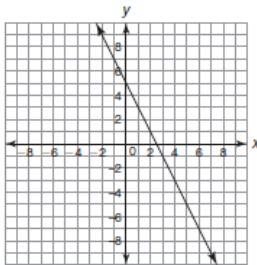


Answers will vary.
 $f(x) = 720$ at $x = 12$

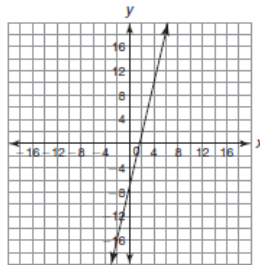
14. $f(x) = 6x + 15$ when $f(x) = 75$



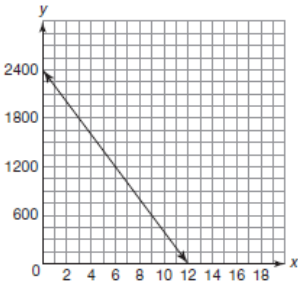
15. $f(x) = -2x + 5$ when $f(x) = -7$



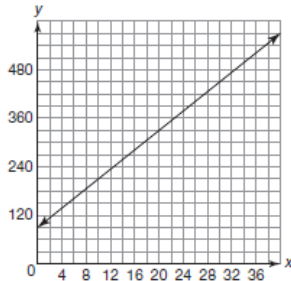
16. $f(x) = 4x - 7$ when $f(x) = 8$



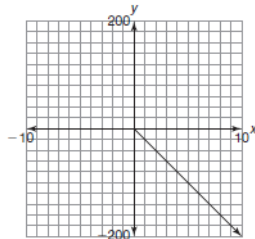
17. $f(x) = -200x + 2400$ when $f(x) = 450$



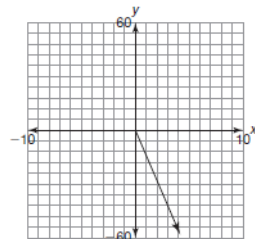
18. $f(x) = 12x + 90$ when $f(x) = 420$



23. A submarine is diving from the surface of the water at a rate of 20 feet per minute. The function $f(x) = -20x$ represents the depth of the submarine as it dives. How many minutes have passed if the submarine is at least 160 feet below the surface?



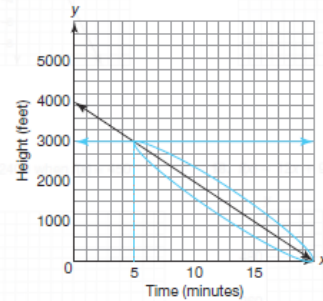
24. A scuba diver is diving from the surface of the water at a rate of 14 feet per minute. The function $f(x) = -14x$ represents the depth of the diver as he dives. How many minutes have passed if the diver is less than 42 feet below the surface?



2.3 #19-24

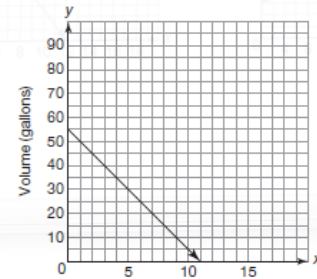
Draw an oval on the graph to represent the solution to each question. Write the corresponding inequality statement.

19. A hot air balloon at 4000 feet begins its descent. It descends at a rate of 200 feet per minute. The function $f(x) = -200x + 4000$ represents the height of the balloon as it descends. How many minutes have passed if the balloon is below 3000 feet?

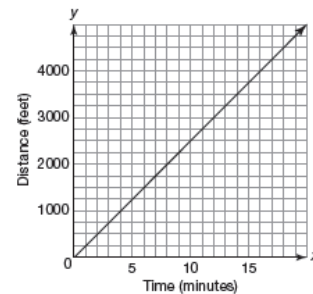


More than 5 minutes have passed if the balloon is below 3000 feet.
 $x > 5$

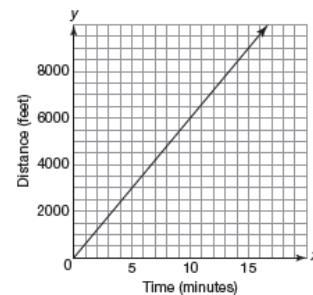
20. A bathtub filled with 55 gallons of water is drained. The water drains at a rate of 5 gallons per minute. The function $f(x) = -5x + 55$ represents the volume of water in the tub as it drains. How many minutes have passed if the tub still has more than 20 gallons of water remaining in it?



21. Lea is walking to school at a rate of 250 feet per minute. Her school is 5000 feet from her home. The function $f(x) = 250x$ represents the distance Lea walks. How many minutes have passed if Lea still has more than 2000 feet to walk?



22. Franco is riding his bike to school at a rate of 600 feet per minute. His school is 9000 feet from his home. The function $f(x) = 600x$ represents the distance Franco rides. How many minutes have passed if Franco has less than 3000 feet left to ride?

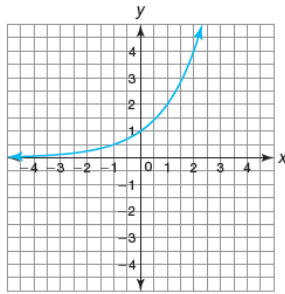


5.2 #19-24

Complete each table and graph the function. Identify the x -intercept, y -intercept, asymptote, domain, range, and interval(s) of increase or decrease for the function.

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

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



x -intercept: none

y -intercept: (0, 1)

asymptote: $y = 0$

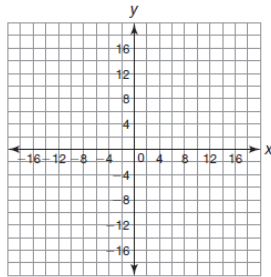
domain: all real numbers

range: $y > 0$

interval(s) of increase or decrease: increasing over the entire domain

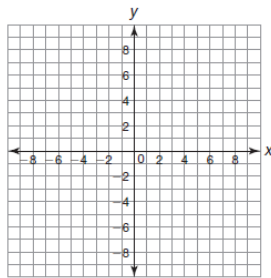
20. $f(x) = 4^x$

| x | $f(x)$ |
|-----|--------|
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| 2 | |



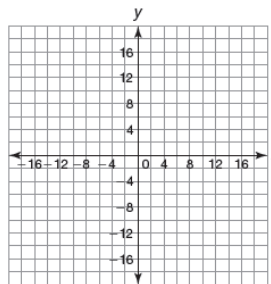
21. $f(x) = \frac{1}{3}^x$

| x | $f(x)$ |
|-----|--------|
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| 2 | |



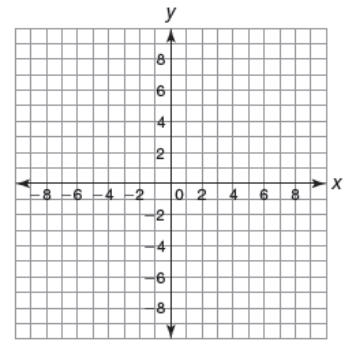
22. $f(x) = \frac{1}{4}^x$

| 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 | |

