Name: _____ Date: _____

Lesson 8.3 Simple Inequalities

Rewrite each statement using $>$, $<$, $\geq$, or $\leq$.

1. g is less than or equal to 55.

_____

2. q is greater than or equal to 28.

_____

3. p is greater than 15.

_____

4. y is less than 20.

_____

Represent the solutions of each inequality on a number line.

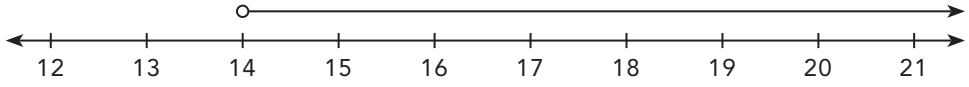
5. $w < 12$

6. $y \geq 6$

7. $z \leq 10$

Write an inequality for each graph on a number line using the variable *a*.

8.



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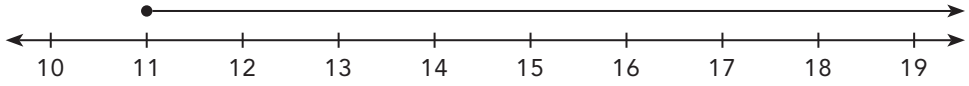
9.



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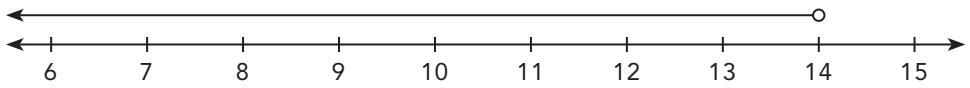
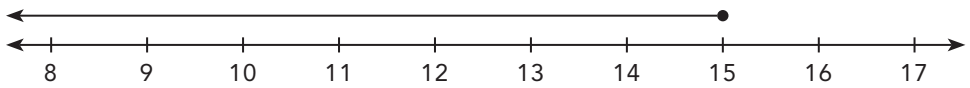
Name: _____ Date: _____

10.



_____

11.



_____

Represent the solutions of each inequality on a number line. Then give three possible integer solutions of each inequality.

12. $w > 4\frac{1}{2}$

13. $k < 10.5$

14. $g \leq 5\frac{3}{4}$

15. $y \geq \frac{9}{10}$

Name: _____ Date: _____

Solve.

16. David's school is more than 8.5 miles from his house. Let x represent the distance between David's house and school.

a) Write an inequality for x. _____

b) Is 8 a possible value of x? Explain. _____

c) Draw a number line to represent the solution set of the inequality. Then state the least possible distance of the school from David's house, as an integer.

17. A small bus can hold a maximum of 20 students. Let y represent the number of students.

a) Write an inequality for y. _____

b) Is 18 a possible value of y? Explain. _____

c) Draw a number line to represent the solution set of the inequality. Then state the maximum value of y.

Each inequality has the variable on the right side of the inequality symbol. Graph each solution on a number line.

18. $9 > m$

19. $-15 \geq k$

20. $-3\frac{1}{2} \leq t$

21. $3.5 < c$

3. a) $x = 4 - 7y$

b) Independent variable: y; dependent variable: x

4. a) $c = \frac{b}{3}$

b) Independent variable: b; dependent variable: c

5. a) $g = k - 20$

b) 80; 100; 120; 130

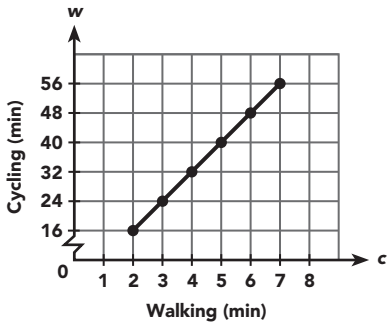
6. a) $b = 4p + 10$

b) 18; 26; 34; 42

7. a) $w = 8c$ or $c = \frac{w}{8}$

b) 16; 24; 32; 40; 48; 56

c)

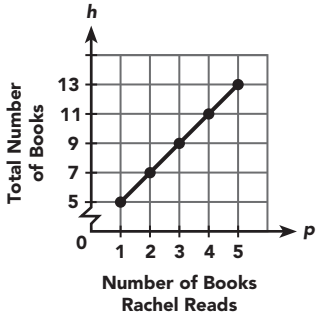


d) $5\frac{1}{2}$ minutes

8. a) $h = 2p + 3$

b) 5; 7; 9; 11; 13

c)

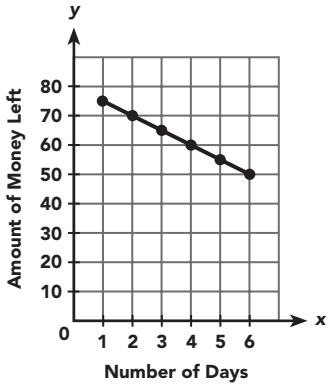


d) Rachel reads 6 books.

9. a) $y = 80 - 5x$

b) 75; 70; 65; 60; 55; 50

c)



Lesson 8.3

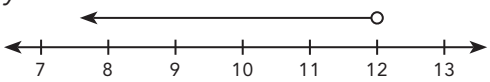
1. $g \leq 55$

2. $q \geq 28$

3. $p > 15$

4. $y < 20$

5.



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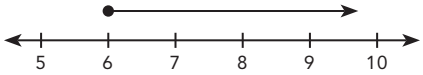

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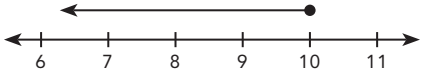


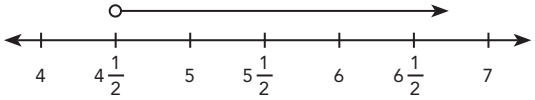
8. $a > 14$

9. $a \geq 11$

10. $a < 14$

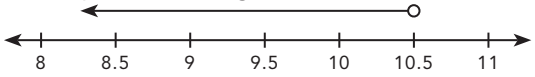
11. $a \leq 15$

12.



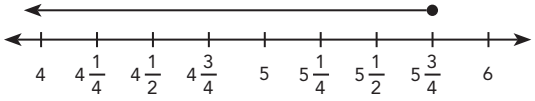
Three possible integers are 5, 6, and 7.

13.



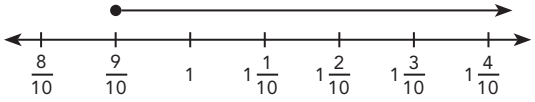
Three possible integers are 8, 9, and 10.

14.



Three possible integers are 3, 4, and 5.

15.

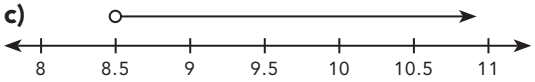


Three possible integers are 1, 2, and 3.

16. a) $x > 8.5$

b) No. x is less than 8.5.

c)

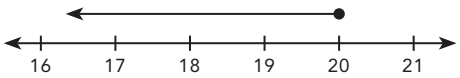


The least possible distance is 9 miles.

17. a) $y \leq 20$

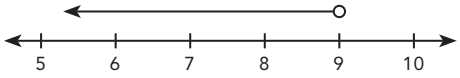
b) Yes. 18 is less than 20.

c)



The maximum value of y is 20.

18.



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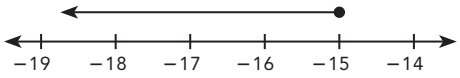
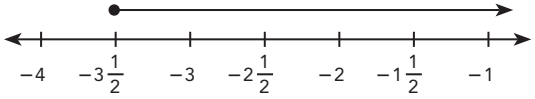


20.



21.