READY, SET, GO! **Name** **Period** **Date**

READY

Topic: Solving equations and inequalities from a context.

Write the given situation as an equation or inequality and then solve it.

1. The local amusement park sells summer memberships for $50 each. Normal admission to the park costs $25; admission for members costs $15.

   a. If Darren wants to spend no more than $100 on trips to the amusement park this summer, how many visits can he make if he buys a membership with part of that money?

   b. How many visits can he make if he pays normal admission instead?

   c. If he increases his budget to $160, how many visits can he make as a member?

   d. How many can he make as a non-member with the increased budget of $160?

2. Jade just took a math test with 20 questions, each question is worth an equal number of points. The test is worth 100 points total.

   a. Write an equation that can be used to calculate Jade's score based on the number of questions she got right on the test.

   b. If a score of 70 points earns a grade of *C*-, how many questions would Jade need to get right to get at least a *C*- on the test?

   c. If a score of 83 points earns a grade of *B*, how many questions would Jade need to get right to get at least a *B* on the test?

   d. Suppose Jade got a score of 60% and then was allowed to retake the test. On the retake, she got all the questions right that she got right the first time, and also got half the questions right that she got wrong the first time. What percent of the questions did Jade get right, in total, on the retake?

SET

Topic: Solve and justify one variable inequalities

Solve each inequality, justifying each step you use.

3.

$-5x < 35$	Justification

4.

$x + 68 \geq 75$	Justification

5.

$2x - 4 \leq 10$	Justification

6.

$5 - 4x \leq 17$	Justification

7.

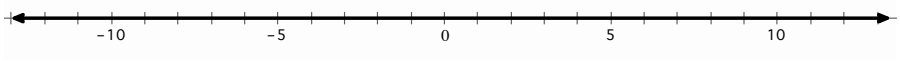
$\frac{x}{-3} > -\frac{10}{9}$	Justification

8.

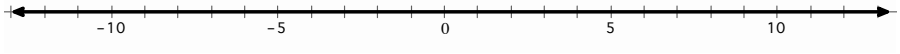
$2(x - 3) \leq 3x - 2$	Justification

Solve each inequality and graph the solution on the number line.

9. $x - 8 > -20$



10. $x + 11 > 13$



Solve each multi-step inequality.

11. $4x + 3 < -1$

12. $4 - 6x \leq 2(2x + 3)$

13. $5(4x + 3) \geq 9(x - 2) - x$

14. $\frac{2}{3}x - \frac{1}{2}(4x - 1) \geq x + 2(x - 3)$

Topic: Solve literal equations

15. Solve the following equation for C: $F = \frac{9}{5}C + 32$

16. Given $V = \frac{1}{3}\pi r^2 h$, rewrite the formula to isolate the variable r.

17. The area formula of a regular polygon is $A = \frac{1}{2}Pa$. The variable a represents the apothem and P represents the perimeter of the polygon. Solve the equation for the apothem, a.

18. The equation $y = mx + b$ is the equation of a line. Isolate the variable b.

19. The equation for the circumference c of a circle with radius r is $c = 2\pi r$. Solve the equation for the radius, r.

20. The equation for the area of a circle A based on diameter d is $A = \pi\frac{d^2}{4}$. Solve the equation to isolate the diameter, d.

GO

Topic: Solve systems of equations by graphing

Graph both lines on the same coordinate grid. Identify the point of intersection. Then test the x and y values of the point of intersection in the two equations.

21. $\begin{cases} y = 2x + 5 \\ -x + y = 1 \end{cases}$

22. $\begin{cases} 10 + y = 3x \\ 2x + y = 0 \end{cases}$

23. $\begin{cases} x + y = 9 \\ x - y = -7 \end{cases}$