Name: _____   Getting Ready │ 10

Ready, Set, Go!

Ready

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Topic: Solving equations and inequalities

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 does not?

    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?

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

    a. Write an equation relating the number of questions Jae got right to the total score he will get on the test.

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

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

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

Set

Topic: Solve and justify one variable inequalities

Solve each inequality, justifying each step you use.

3.

$x - 5 < 35$	Justification

4.

$x + 68 \geq 75$	Justification

5.

$2x - 4 \leq 10$	Justification

6.

$5 - 4x \leq 17$	Justification

7.

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

8.

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

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

9. $x - 8 > -20$
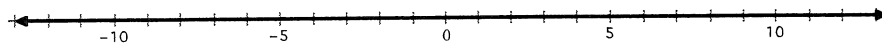
10. $x + 11 > 13$
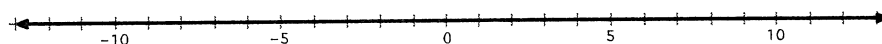
Solve each multi-step inequality.

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 to isolate C: $F = \frac{9}{5}C + 32$

16. For $V = \frac{1}{3}\pi r^2 h$, 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. Rewrite the equation to highlight the value of 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 with diameter d is $A = \pi \frac{d^2}{4}$. Solve the equation to isolate the diameter, d.
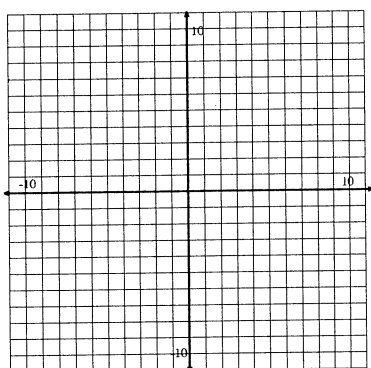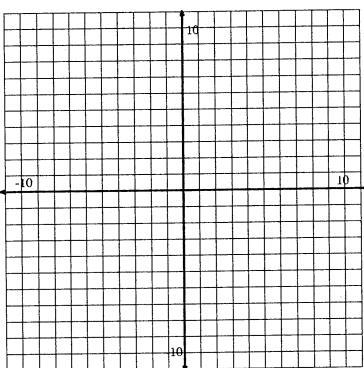
Go

Topic: Solve systems of equations

Solve linear equations and pairs of simultaneous linear equations (simple, with a graph only). Justify the solution numerically.
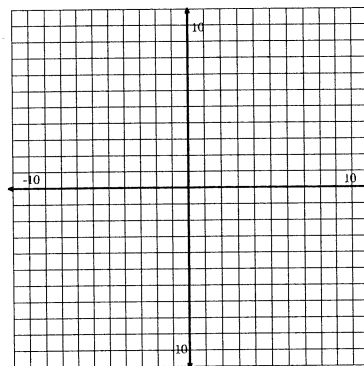
21. $\begin{cases} y = 2x + 5 \\ -x + y = 1 \end{cases}$

22. $\begin{cases} 3x - 2y = 16 \\ x + 2y = 0 \end{cases}$

23. $\begin{cases} 3x + 2y = 11 \\ 4x - y = 10 \end{cases}$

Need Help? Check out these related videos:

http://www.khanacademy.org/math/algebra/solving-linear-inequalities/v/equations-and-inequalities

http://www.khanacademy.org/math/algebra/solving-linear-equations/v/solving-for-a-variable

http://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/v/solving-linear-systems-by-graphing