Topic 1: Numeric Expressions
Evaluate the expression
http://www.khanacademy.org/math/arithmetic/#order-of-operations

1. $3 \cdot 5 + 14 \div 2$
2. $\frac{5 \cdot 8}{10}$
3. $3 \cdot 6 - 4 \cdot 4$

4. $\frac{8 - 3}{5 \cdot 3}$
5. $32 - 12 + 1$
6. $(8 - 3 + 1) \div 2$

7. $5 - 2 + 7$
8. $16 - 4 \times 3$
9. $9 \times 10 - 5$

Evaluate and estimate the expressions with square roots
http://www.khanacademy.org/math/algebra/exponents-radicals/v/understanding-square-roots

10. $\sqrt{64}$
11. $\sqrt{81}$
12. $\sqrt{196}$

Identify which two consecutive integers the square root lies between
http://www.khanacademy.org/math/algebra/exponents-radicals/v/approximating-square-roots

13. $\sqrt{30}$
14. $\sqrt{12}$
15. $\sqrt{85}$
Topic 2: Algebraic Expressions
Evaluate the expressions when \( x = 6 \) and \( y = -5 \)

16. \( \frac{1}{3}y^2 \)  
17. \( 5y - \frac{18}{x} \)  
18. \( x^2 - y + 9 \)  
19. \( \frac{x + 6}{x - 6} \)

Use the distributive property to rewrite the expression without parentheses.

20. \( 4(x + 9) \)  
21. \( 2(6a + 5) \)  
22. \( 4(x + 7) \)

Simplify the expression

23. \( r + r(3 + 8) \)  
24. \( 7x - 3x + 2 - 4 \)  
25. \( 5 - 3x + 9 + 10x \)

Topic 3: Properties of Real Numbers
Identify which property is being used for each question

26. \( 8(0) = 0 \)  
27. \( 5 + (-5) = 0 \)  
28. \( x(yz) = (xy)z \)  
29. \( 12 + 0 = 12 \)  
30. \( 5 + 3 = 3 + 5 \)
Hughes Middle School Summer Math Packet
Math 8 and Math 7 Honors Students

Topic 4: Solving Equations and Inequalities
Solve the equation

31. $7x = 42$  
32. $\frac{x}{4} = -12$  
33. $x - 3 = 12$

34. $6x - 9 = 15$  
35. $\frac{y}{2} + 7 = 5$  
36. $-3x + 2 = -4$

Solve the inequality. Graph the solution.

37. $y - 2 > 5$  
38. $4x + 1 > 33$  
39. $-2x - 5 > 7$

Check whether the given number is a solution of the inequality
40. $2x > 20; 5$  
41. $p - 3 < 2; 3$

Topic 5: Linear Equations
Give the coordinates of each of the following points
42. A  
43. F  
44. J  
45. K  
46. M  
47. N
Plot each point in the coordinate plane to the right.

48. A(-2,1)
49. B(2,-2)
50. C(0,-4)
51. D(2, 0)
52. E(-5,-3)
53. F(1,3)

Use a table of values to graph the equation.


40. $y = 2x - 1$

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41. $y = 3x - 2$

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