Warm up back of p 7

$$7x - 10 + 5 - 9x = 11$$

$$3x = \frac{-5x - 4}{6}$$

$$\frac{x + 5}{-3} = 8$$

~ Pluggin Away Equations Relay

~ Check answers to completed test review

~ Finish test review OR complete IXL practice

IXL 8th Grade   *Smart Score 80*

W.3 (model equations)

W.5 (Properties)

X.9 (graph multistep inequalities)

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Pre-Algebra Unit 3 Part 1 Review

For what value of x is the equation below true?
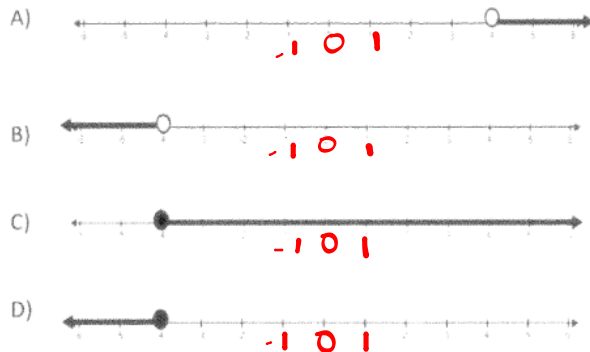
$$7x - 10 + 5 - 9x = 11$$

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2) Draw the graph that shows the solution to the following inequality.

$$4.8 < 3w + 13.8$$

3) Solve the inequality and select the number line that illustrates the correct graph of the solution.

$$-5a - 7 \leq 13$$

A) ← ─────────────────○──── →

B) ← ────○──────────────── →

C) ← ────●──────────────── →

D) ← ────●──────────────── →

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4) What value of k makes this equation true?

$$3k = \frac{-5k - 4}{6}$$

5) Identify each property shown.

A) $5 + (4 + 3) = (4 + 3) + 5$

B) $(8 \cdot 3) \cdot (6) = (8) \cdot (3 \cdot 6)$

C) $3(a + 2) = 3a + 6$

D) $-\frac{2}{3} \cdot -\frac{3}{2} = 1$

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6) Which property best justifies the work between steps 3 and 4?

Given	$3(x + 4) = 30$
Step 1	$3x + 3(4) = 30$
Step 2	$3x + 12 = 30$
Step 3	$3x + 12 + (-12) = 30 + (-12)$
Step 4	$3x + 0 = 30 + (-12)$

7) The table below shows a sequential pattern developed by bacteria reproducing. Is the pattern arithmetic or geometric? Explain.
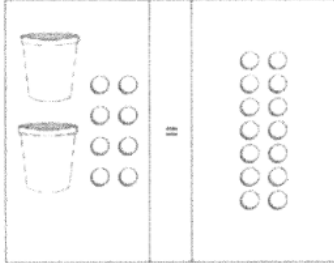
Time	Number of Bacteria Cells
10 minutes	2
20 minutes	6
30 minutes	18
40 minutes	54

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8) If "n" represents the previous term, write a variable expression that best describes the pattern below.

1, 2, 4, 8...

9) Which phrase best represents the expression $\frac{(9-a)}{8}$?

A) The quotient of 9 and a number minus 8.
B) The quotient of 8 and a number minus 9.
C) The difference of 8 and a number divided by 9.
D) The difference of 9 and a number divided by 8.

10) Translate the following verbal expression.
5 more than the quotient of x and 8

11) Which could be used to find the number n?

The sum of a number, n, squared and two is eighteen.

A) $n^2 - 2 = 18$
B) $2n + 2 = 18$
C) $2n - 2 = 18$
D) $n^2 + 2 = 18$

12) Simplify the following expression

$$\frac{9^2 - (12 - 8)}{\sqrt{100}} + 30$$

13) If "n" represents the previous term, write a variable expression that best describes the sequence below.

7, -14, 28, -56...

14) Which of the following sequences has a common ratio of -5?

A) 2, -3, -8, -13...

B) -11, -6, -1, 5...

C) -1, 5, -25, 125...

D) 625, -125, 25, -5...

15) What is the common ratio of the geometric sequence shown below?

32, 16, 8, 4, 2...

16) Evaluate $\frac{4 + 9m}{3n - 10}$ for $m = \frac{1}{3}$ and $n = 8$.

A) $\frac{1}{4}$

B) 7

C) $\frac{1}{2}$

D) 14

17) Which property is used in the equation below?

$$\left(7 + \frac{2}{3}\right) + 0 = \left(7 + \frac{2}{3}\right)$$

18) Which number satisfies the inequality?
$x + 3 < -2$?

19) Which equation is equivalent to the following?
$$-3(x + 2) = -2(2x - 3)$$

A) $-3x + 2 = -4x - 3$
B) $-3x - 6 = -4x + 6$
C) $-3x + 2 = -4x + 3$
D) $-3x - 6 = -4x - 6$

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20) Based on the equation mat below, what is the value for x?

Key: ☐ = x, ◯ = 1

A)   3

B)   6

C)   22

D)   112

21) Joanna was given the expression below. The first four steps she used to simplify the expression are shown.

Step 1: 3x + (12 + 5x)

Step 2: (12 + 5x) + 3x

Step 3: 12 + (5x + 3x)

Step 4: 12 + (8x)

Between which two steps is the commutative property of addition applied.

A)   Steps 1 and 2

B)   Steps 2 and 3

C)   Steps 3 and 4

D)   Commutative property of addition is not used

22) Solve the equation for x.
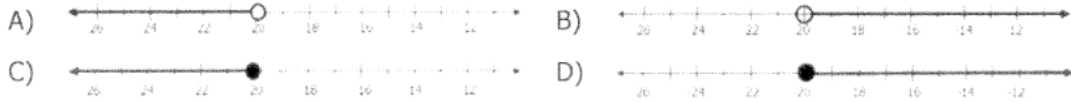
$$\frac{x + 5}{-3} = 8$$

23) Solve the inequality.

$$4s > 20$$

24) Which graph represents the following?

$$-2k - 5 < 35$$

A)

B)

C)

D)

25) What is the solution to the equation below?

$$\frac{2}{3}n + 4 = 10$$

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26) Which of the following values satisfy the inequality shown?

$$y + 2 > -5$$

-6	4	-8	-4	-5	-10	0	1

27) Select each equation that illustrates the distributive property.
Circle all equations that are correct.

$5 \cdot (4 + 3) = (4 + 3) \cdot 5$

$12 \cdot \left(4\frac{3}{4}\right) = 12 \cdot (4) + 12 \cdot \left(\frac{3}{4}\right)$

$(8 \cdot 3) \cdot (6) = (8) \cdot (3 \cdot 6)$

$6(2 + 7) = 6(2) + 6(7)$

$3 \left(\frac{-2}{3}\right) = \left(\frac{-2}{3}\right) 3$

28) Which of the following does **not** represent an *expression*?

A)   n

B)   8n

C)   8n+1

D)   8n+1=17

29) Circle all inequalities that have the same solution set as shown in the graph:

$x + 5 > 2$	$2x < -6$
$-2x < 6$	$-3 > x$
$x > -3$	$-3 < x$

30) If $-\frac{m}{5} - 4 = 8$ find the value of m.