Algebra 1 TEST Review   Name _____
Polynomials   Date _____

#1-12, Perform the indicated operations.   9 $(2y - 8)(3y - 1)$
1        $(7h^2 - h) + (2h^2 + 3h)$

2        $(2x^2y + 4xy - 6) + (x^2y + 4xy)$ 10 $(5x + 1)(5x - 1)$

3        $(7a^2b + 2a) - (8a^2b - 5a)$

                                                  11       $(t - 7)^2$

4        $(-6x^2 + 9x - 1) - (3x^2 - 7x - 2)$

                                                  12       $(3a - 2b)^2$

5        $\dfrac{9b^4 - 3b^2}{3b^2}$

                                                  13   John said that yesterday he earned
                                                           3x + 6y dollars and that today he
6        $2mn\overline{)8m^4n^3p - 14m^2n}$ earned 2x + 4y dollars. Write an
                                                           expression for the total amount John
                                                           earned in two days..

7        $6a^2(2a^2 - a + 3)$
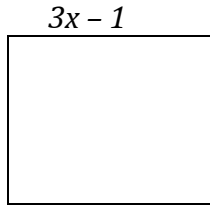
                                                  14   Anthony and Sanford each throw a
                                                           football. The height of Anthony's
                                                           throw can be represented by the
                                                           equation A = $-10x^2 + 15x + 22$, where A
                                                           is height and x is the time in seconds.
8        $-4c(c^3 - cd + d)$ The height of Sanford's throw can be
                                                           represented by the equation
                                                           S = $-9x^2 + 14x + 23$. At time x, how
   much higher is Stanford's throw?

Use the following square to answer #15-16.

3x – 1

15   Find the *perimeter* of a square with a side length of *3x – 1* ?

16   Find the area of a square with a side length of 3x – 1.

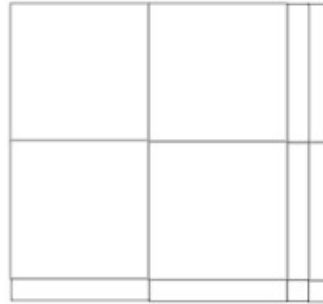- -

17   The length of a rectangle is (3x – 1) and the width is (x + 4). Which expression represents the area of the rectangle?

A $3x^2 – 11x + 4$
B $3x^2 + 13x – 4$
C $3x^2 + 11x – 4$
D $4x^2 + 11x – 4$
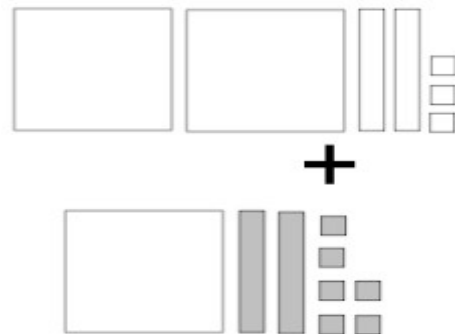
Consider the following models to answer #18-20.

x^2

$-x^2$

x

-x

1

-1
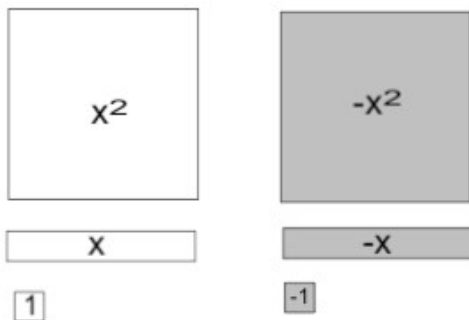
18   What polynomial is represented by this diagram?

19   What polynomial is represented by the following?

$+$

20   Which expression represents the area of the diagram below?

21   Which property is represented by

A $x(y + z) = xy + xz$

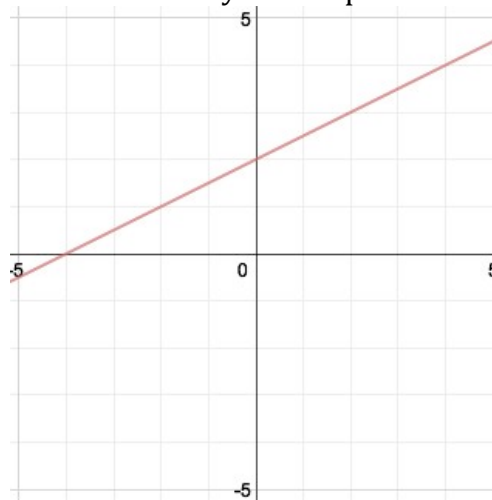B   If $x + y = z$, then $z = x + y$

C $x + y = y + x$

22   Evaluate $b^2 - 4ac$ when
      a = -5, b = -2 and c = -1

29   Simplify $(5m^2n)(2mn^3)$

23   Solve $r = \frac{1}{3}st$ for t.

30   Find the x- and y-intercepts.

24   Simplify $\sqrt{48a^2b^3}$

25   Solve $2 - 3x > 32$

26   What is the slope of the line passing
      through (-5, 2) and (3, -2)?

27   What is the slope and y-intercept of
      $4x - 6y = 24$?

28   What is the solution to the following
      system of equations?

      $$\begin{cases} y = x + 7 \\ x + y = -2 \end{cases}$$