Algebra 1 Homework – 6-3 and 6-4

Name:_____ **Date:**_____ **Block:**_____

Write each polynomial in standard form. Then, give the leading coefficient.

1) $6k + 5k^4 - 4k^3 + 3k^2$

2) $7 - 50j + 3j^3 - 4j^2$

3) $13 - 5h^3 + h^2 - h$

4) $12 + 3x^2 - x$

5) $g^4 - 2g^3 - g^5$

6) $k^2 + k^4 - k^3 + 1$

Classify each polynomial by its degree and number of terms.

7) $-5t^2 + 10$

8) $8w - 32 + 9w^4$

9) $b - b^3 - 2b^2 + 5b^4$

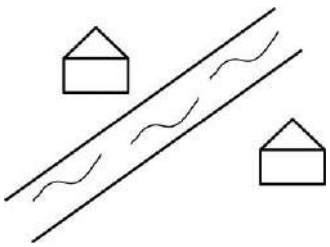
10) $6t^3 + 54t^4 - 1$

11) $3x + 11$

12) $109z^2$

13) The recreation field at a middle school is shaped like a rectangle with a length of $15x$ yards and a width of $10x - 3$ yards. Write a polynomial for the perimeter of the field. Then calculate the perimeter if $x = 2$.

14) Two cabins on opposite banks of a river are $12x^2 - 7x + 5$ feet apart. One cabin is $9x + 1$ feet from the river. The other cabin is $3x^2 + 4$ feet from the river. Write the polynomial that represents the width of the river where it passes between the two cabins. Then calculate the width if $x = 3$.



Add or subtract.

15) $(4x^3 - x^2 + 4x) + (x^3 - x^2 - 4x)$

16) $(4a^4 - 9a^2 + 4a^3) + (a^3 - 11a^2 - 4a^5)$

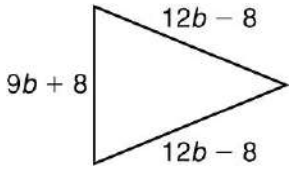
17) $(4x^3 - x^2 + 2x) - (3x^3 + x^2 + 4x)$

18) $(11b^2 + 3b - 1) - (2b^2 + 2b + 8)$

19) $(c^3 - c^2 + 2c) - (-3c^3 - c^2 - 4c)$

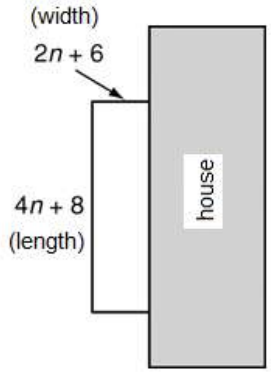
20) $(10g^2 + 3g - 10) + (2g^2 + g + 9)$

21) Antoine is making a banner in the shape of a triangle. He wants to line the banner with a decorative border. How long will the border be?



22) Becki is building an enclosure for her rabbits against the side of her house.

a) Find the difference between the length and the width of the enclosure.



b) Find the perimeter of the enclosure not including the side of the house.

c) Find the perimeter of the enclosure if she built it in the yard without the house as a wall.