Name: _____

SM2 1.3: Polynomials

Put each polynomial in standard form. Identify the lead coefficient and name the polynomial by degree and number of terms.

1) $-10x^2 - 5 + 8x$
SF: $-10x^2 + 8x - 5$
LC: -10
Quadratic Trinomial

2) $-m$
SF: $-m$
LC: -1
Linear Monomial

3) $2 + 9x^2$
SF: $9x^2 + 2$
LC: 9
Quadratic Binomial

4) $6b + 3b^4 - 6b^6 + 10b^3$
SF: $-6b^6 + 3b^4 + 10b^3 + 6b$
LC: -6
Sixth Degree Polynomial

5) 6
SF: 6
LC: 6
Constant Monomial

Perform the indicated operation.

6) $(-n^4 - 3) + (7n^4 + 5 + 4n^2)$
$6n^4 + 4n^2 + 2$

7) $5x(2x - 6)$
$10x^2 - 30x$

8) $6a^2(5a + 6)$
$30a^3 + 36a^2$

9) $(-5n - n^4) - (8n^4 - 7n)$
$-9n^4 + 2n$

10) $(6p + 5)(p - 6)$
$6p^2 - 31p - 30$

11) $(4r^2 - 2r^3 + 5r) - (3r^2 - 2r - 5r^4)$
$5r^4 - 2r^3 + r^2 + 7r$

12) $(2b - 7)^2$
$4b^2 - 28b + 49$

13) $(7x + 8)(8x^2 + 8x + 3)$
$56x^3 + 120x^2 + 85x + 24$

14) $(2x^4 - 5x^2) + (6x^2 + 2x^4 - x^3)$
$4x^4 - x^3 + x^2$

15) $(1 + 7n)(1 - 7n)$
$1 - 49n^2$ or $-49n^2 + 1$

Find the measure of each indicated quantity. Include units.

16) Perimeter of Rectangle: $2a + 2b\ mi$
Area of Rectangle: $ab\ mi^2$

17) Area of Parallelogram: $2x^2 + 5x - 12\ ft^2$

18) Area of Triangle: $\frac{1}{2}x^2 - \frac{3}{2}x - 2\ in^2$ or
$\frac{1}{2}(x^2 - 3x - 4)\ in^2$

19) Area of Square: $x^2 + 2x + 1\ in^2$
Perimeter of Square: $4x + 4\ in$

20) Volume of Right Cylinder: $\pi w^3 + 3\pi w^2$
or $\pi w^2(w + 3)$
Surface Area of Right Cylinder: $4\pi w^2 + 6\pi w$
or $2\pi w^2 + 2\pi w(w + 3)$