

11.1-11.4 Review

Simplify:

1) $(-5x^2 - 3x + 9) + (x^2 + 12x - 8)$
 $-4x^2 + 9x + 1$

3) $(9x^3 + 7x^2 + 2x) - (3x^3 - 11x^2 - 5x)$
 $6x^3 + 18x^2 + 7x$

4) $3b(-10b^2 + 4b - 8)$
 $-30b^3 + 12b^2 - 24b$

6) $(3y^2 + 9y - 2)(7y - 10)$

$3y^2$	$21y^3$	$-30y^2$
$+9y$	$63y^2$	$-90y$
-2	$-14y$	20

 $21y^3 + 33y^2 - 104y + 20$

8) $(7j + 1)(6j + 2)$

$7j$	$42j^2$	$14j$
$+1$	$6j$	2

 $42j^2 + 20j + 2$

10) $(6x^2 - 12y^2)^2 = (6x^2 - 12y^2)(6x^2 - 12y^2)$

$6x^2$	$36x^4$	$-72x^2y^2$
$-12y^2$	$-72x^2y^2$	$144y^4$

 $36x^4 - 144x^2y^2 + 144y^4$

12) $(-9d - 10)^2 = (-9d - 10)(-9d - 10)$

$-9d$	$81d^2$	$90d$
-10	$90d$	100

 $81d^2 + 180d + 100$

14) $(20x - 9)(x + 2)$

$20x$	$20x^2$	$40x$
-9	$-9x$	-18

 $20x^2 + 31x - 18$

2) $5w^3 - 4w^2 - 6w$
 $(-)(8w^3 - 2w^2 + 3w)$
 $-3w^3 - 2w^2 - 3w$

5) $-5d(2d^2 - 9d - 8)$
 $-10d^3 + 45d^2 + 40d$

7) $(4d + 5)(5d - 3)$

$4d$	$20d^2$	$-12d$
$+5$	$25d$	-15

 $20d^2 + 13d - 15$

9) $(2b + 7)^2 = (2b + 7)(2b + 7)$

$2b$	$4b^2$	$14b$
$+7$	$14b$	49

 $4b^2 + 28b + 49$

11) $(8t + 3)(8t - 3)$

$8t$	$64t^2$	$-24t$
$+3$	$24t$	-9

 $64t^2 - 9$

13) $(14x - 1)(14x + 1)$

$14x$	$196x^2$	$14x$
-1	$-14x$	-1

 $196x^2 - 1$

15) $(2x + 3)(x^2 - 8x - 10)$

$2x$	$2x^3$	$-16x^2$	$-20x$
$+3$	$3x^2$	$-24x$	-30

 $2x^3 - 13x^2 - 44x - 30$

Find the GCF of the terms of each polynomial:

$$16) \frac{28x^{10}y^5}{7x^6y^5} - \frac{35x^6y^9}{7x^6y^5}$$

$$\boxed{7x^6y^5(4x^4 - 5y^4)}$$

$$17) \frac{15z^4}{5z} + \frac{25z^2}{5z} - \frac{100z}{5z}$$

$$\boxed{5z(3z^3 + 5z - 20)}$$

Find the degree of the monomial:

18) $5a^4b^5$ add exponents $4+5$

↳ Degree = $\boxed{9}$

Write the polynomial in standard form. Then, name the polynomial based on its degree and number of terms.

↳ decreasing order of exponents

$$19) \underbrace{9x^2} + \underbrace{3x} - \underbrace{12x^2} - \underbrace{4x} - \underbrace{4x^4}$$

$$-3x^2 - x - 4x^4$$

$$\boxed{-4x^4 - 3x^2 - x}$$

$\boxed{\text{quartic trinomial}}$

***Check for worked out solutions on walczakmath.com!