Algebra 1 Name Hulk ID: 1

Study Guide For Final Date

Simplify each expression.

1) $(3k^2 + 6) + (4k^2 + 2)$ Combine LTs

$7k^2 + 8$

2) $(6m - 4m^4) + (5m^4 + 3)$

$m^4 + 6m + 3$

3) $(3 - 5x^3 + x) - (5x^3 + 5)$

$3 - 5x^3 + x - 5x^3 - 5$

$\boxed{-10x^3 + x - 2}$

4) $(8r^4 - 8 + 3r) + (8r^3 - 5r^4 - 8r)$

$3r^4 + 8r^3 - 5r - 8$

Find each product.

5) $(8p - 2)(8p - 6)$

$64p^2 - 48p - 16p + 12$

$\boxed{64p^2 - 64p + 12}$

6) $(5k + 2)(2k - 2)$

$10k^2 - 10k + 4k - 4$

$\boxed{10k^2 - 6k - 4}$

7) $(2a - 6)(2a - 5)$

$4a^2 - 10a - 12a + 30$

$\boxed{4a^2 - 22a + 30}$

8) $(2x - 4)(6x^2 + 5x + 5)$

$12x^3 + 10x^2 + 10x$

$- 24x^2 - 20x - 20$

$\boxed{12x^3 - 14x^2 - 10x - 20}$

Factor the common factor out of each expression.

9) $-72a^3 + 24a^2 + 32a$

$8a(-9a^2 + 3a + 4)$

OR

$-8a(9a^2 - 3a - 4)$

10) $-4n^6 + 8n^3 + 4n$

$-4n(n^5 - 2n^2 - 1)$

OR

$4n(-n^5 + 2n^2 + 1)$

Factor each completely.

11) $9a^2 - 25$

$(3a-5)(3a+5)$

difference of 2 squares

12) $4b^2 - 4b + 1$

4

$(b-\frac{2}{4})(b-\frac{2}{4})$

$(b-\frac{1}{2})(b-\frac{1}{2})$

$\boxed{(2b-1)(2b-1)}$

13) $v^2 - 6v - 40$

2 values that mult to -40 & add to -6

$(v-10)(v+4)$

14) $m^2 - 6m - 27$

$(m-9)(m+3$

2 vals that mult to -27 & add to -6

15) $3x^2 - 4x - 7$

-21

$(x-\frac{7}{3})(x+\frac{3}{3})$

$(3x-7)(x+1)$

16) $9x^2 + 15x + 6$

GCF!

6

$3(3x^2+5x+2)$

$(x+\frac{3}{3})(x+\frac{2}{3})$

$\boxed{3(x+1)(3x+2)}$

Solve each equation by factoring.

17) $x^2 + x - 2 = 0$

$(x+2)(x-1) = 0$

$\boxed{x = -2, 1}$

18) $m^2 - 3m - 40 = 0$

$(m-8)(m+5) = 0$

$\boxed{m = 8, -5}$

19) $3n^2 + 13n + 14 = 0$

42

$(n+\frac{7}{3})(n+\frac{6}{3})$

$(n+7/3)(n+2) = 0$

$\boxed{n = -7/3, -2}$

20) $7x^2 + 57x + 56 = 0$

392

$(x+\frac{49}{7})(x+\frac{8}{7})$

$(x+7)(x+8/7) = 0$

$\boxed{x = -7, -8/7}$