

## Quiz Review

Simplify each sum.

1)  $(2n - 7 - 5n^2) + (8n^2 + 3 - 5n)$

$$3n^2 - 3n - 4$$

Find each product.

3)  $(7a - 2)(3a + 2)$

$$21a^2 + 8a - 4$$

Divide.

5)  $(6x^3 + 28x^2 - 54x - 33) \div (x + 6)$

$$6x^2 - 8x - 6 + \frac{3}{x+6}$$

7)  $(k^3 - 11k^2 + 21k + 19) \div (k - 4)$

$$k^2 - 7k - 7 - \frac{9}{k-4}$$

Evaluate each function at the given value.

9)  $f(x) = -6x^3 + 34x^2 + 10x$  at  $x = 6$

$$-12$$

10)  $f(x) = 5x^4 - 22x^3 + 14x^2 - 30x + 21$  at  $x = 4$

$$-3$$

11)  $f(x) = x^3 + 6x^2 + x - 29$  at  $x = -5$

$$-9$$

Expand completely.

13)  $(n - 2)^4$

$$n^4 - 8n^3 + 24n^2 - 32n + 16$$

15)  $(1 + 5a)^3$

$$1 + 15a + 75a^2 + 125a^3 \quad \text{OR}$$

$$125a^3 + 75a^2 + 15a + 1$$

Simplify each difference.

2)  $(5a^4 + a^3 + 2a^2) - (a^3 - 2a^2 - 8a^4)$

$$13a^4 + 4a^2$$

4)  $(n - 4)(6n + 5)$

$$6n^2 - 19n - 20$$

6)  $(5x^3 - 23x^2 + 30x - 10) \div (x - 3)$

$$5x^2 - 8x + 6 + \frac{8}{x-3}$$

8)  $(p^3 - 6p^2 - 13p + 9) \div (p + 2)$

$$p^2 - 8p + 3 + \frac{3}{p+2}$$

12)  $f(n) = -n^4 - 2n^3 + n^2 - 12n - 12$  at  $n = -3$

$$6$$

14)  $(u + 4v)^4$

$$u^4 + 16u^3v + 96u^2v^2 + 256uv^3 + 256v^4$$

16)  $(2u + 1)^4$

$$16u^4 + 32u^3 + 24u^2 + 8u + 1$$