Name_____

Chapter 7 Practice Test

Date_____ Period_____

Simplify each expression.

1) $(6v^2 - 8v) - (2v - 2v^2)$

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

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

4) $(8a + 3) + (3a + 2)$

5) $3(5r - 1) + 3(-5 - 2r)$

6) $-4(1 + 3x) - 4(2x - 5)$

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

8) $3(2 + 4n) - 2(n - 4)$

9) $2(n + 5) - 3n(-4n - 3)$

10) $b(-4b - 3) - 2(b - 5)$

Factor the common factor out of each expression.

11) $18k^3 - 36k^4 + 6k^5$

12) $-8v^4 + 8v + 9$

13) $16pqr + 24pq$

14) $30y^2x + 100y^3$

15) $32x^4zy - 24x^4z^2 - 24x^4z$

16) $6q + 7m^2p^5$

For each arithmetic sequence below, write an expression in simplified form to find the *n*th term.

17) 12, 16, 20, 24, 28, ...

18) 19, 13, 7, 1, −5

19) −2, 7, 16, 25, 34, ...

20) −3, −6, −9, −12, −15, ...

For each expression below, write the first five terms of the arithmetic sequence it describes.

21) $6n - 5$

22) $-2n - 7$

23) $\frac{1}{2}n + \frac{3}{2}$

24) $0.8n - 1.4$

For each scenario below, write an expression to describe the scenario.

25) You are opening a lemonade stand and spend $60 on materials for the stand. You will sell lemonades for 75¢ each. How much money (in dollars) will you earn in profit if you sell *c* cups of lemonade?

26) A plumber charges $50 per visit, plus an additional $25 per hour of work. How much will the plumber charge in total if the job requires *h* hours to complete?

27) You borrow $50 and plan to pay $5 per week until the debt is paid off. How much will you still owe after *w* weeks?

28) You are saving up to buy a $400 laptop computer. If you have $65 in your savings account and earn $20 per week walking dogs, how much money will you have saved after *w* weeks?