

Student: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Instructor: Rick Butterworth  
Course: Algebra 2008-2009  
Book: Martin-Gay: Beginning Algebra, 5e

Assignment: Inter Test One p

1. Evaluate the expression.

$$-1^2$$

---

$$-1^2 = \square$$

---

2. Evaluate the expression.

$$(-1)^1$$

---

$$(-1)^1 = \square$$

---

3. Use the product rule to simplify the expression.

$$z^5 \cdot z^9$$

---

$$z^5 \cdot z^9 = \square$$

---

4. Use the product rule to simplify the expression. Write the results using exponents.

$$(-4)^3 \cdot (-4)^8$$

---

$$(-4)^3 \cdot (-4)^8 = \square$$

---

5. Use the product rule to simplify the expression. Write the result using exponents.

$$(a^6b^3)(a^{11}b)$$

---

$$(a^6b^3)(a^{11}b) = \square$$

---

6. Use the power rule to simplify the expression.

$$(n^4)^6$$

---

$$(n^4)^6 = \square$$

---

7. Use the power rule and the power of a product or quotient rule to simplify the expression.

$$(-5a^3b^4c)^2$$

---

$$(-5a^3b^4c)^2 = \square \text{ (Type your answer using exponential notation.)}$$

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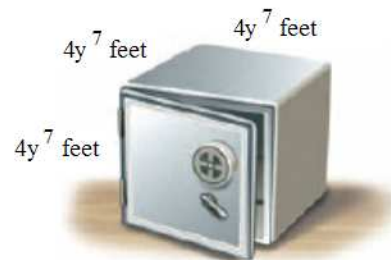
8. Use the power rule, the power of a product rule, and the power of a quotient rule to simplify the expression.

$$\left(\frac{6xz}{y^2}\right)^3$$

---

$$\left(\frac{6xz}{y^2}\right)^3 = \square$$

9. The vault shown is in the shape of a cube. If each side is  $4y^7$  feet, find its volume.



---

The volume of the vault is equal to  $\square$  cu ft.  
(Type your answer using exponential notation. Simplify your answer.)

10. Use the quotient rule and simplify the expression.

$$\frac{(-4)^8}{(-4)^5}$$

---

$$\frac{(-4)^8}{(-4)^5} = \square$$

11. Use the quotient rule to simplify the expression.

$$\frac{p^2q^7}{pq}$$

---

$$\frac{p^2q^7}{pq} = \square$$

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12. Use the quotient rule to simplify the given expression.

$$\frac{9b^3d^7}{45b^3d^4}$$

$$\frac{9b^3d^7}{45b^3d^4} = \square$$

(Type your answer using exponential notation. Use positive exponents only.)

13. Use the product rule to simplify the expression.

$$(-7x^4)(-9x^3)$$

$$(-7x^4)(-9x^3) = \square$$

14. Use the product rule to simplify the expression. Write the result using exponents.

$$(-8y^2z^6)(9yz^3)$$

$$(-8y^2z^6)(9yz^3) = \square$$

15. Simplify the expression.

$$8^0 + 8^2$$

$$8^0 + 8^2 = \square$$

16. Simplify the expression.

$$\left(\frac{3m^6}{9n^3}\right)^4$$

$$\left(\frac{3m^6}{9n^3}\right)^4 = \square$$

17. Simplify the polynomial by combining like terms.

$$11x^2 + 9x^2$$

$$11x^2 + 9x^2 = \square \text{ (Simplify your answer.)}$$

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18. Simplify the given polynomial by combining like terms.

$$\begin{array}{l} 13x^2 - 2x^2 - y \\ \hline 13x^2 - 2x^2 - y = \square \end{array}$$

19. Simplify the polynomial by combining like terms.

$$\begin{array}{l} \frac{2}{5}x^2 - \frac{1}{2}x^3 + x^2 - \frac{1}{3}x^3 + 7 \\ \hline \frac{2}{5}x^2 - \frac{1}{2}x^3 + x^2 - \frac{1}{3}x^3 + 7 = \square \end{array}$$

(Simplify your answer. Use integers or fractions for any numbers in the expression.)

20. Simplify the following expression by combining the like terms.

$$\begin{array}{l} -6a^2 - 6ab + 6b^2 - 7a^2 - 5ab + 5b^2 \\ \hline -6a^2 - 6ab + 6b^2 - 7a^2 - 5ab + 5b^2 = \square \end{array}$$

21. Add.

$$\begin{array}{l} (2x + 6) + (2x + 3) \\ \hline (2x + 6) + (2x + 3) = \square \text{ (Do not factor.)} \end{array}$$

22. Subtract the given expressions.

$$\begin{array}{l} (5x^2 + 7) - (7x^2 - 11) \\ \hline (5x^2 + 7) - (7x^2 - 11) = \square \end{array}$$

23. Subtract  $(50x^2 + 9)$  from  $(63x^2 + 7)$ .

The difference is  $\square$ . (Simplify your answer.)

24. Perform the indicated operation.

$$\begin{array}{l} (7y + 6) - (-7y^2 - 9y + 6) \\ \hline (7y + 6) - (-7y^2 - 9y + 6) = \square \text{ (Simplify your answer.)} \end{array}$$

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25. Add or subtract as indicated.

$$(5x^2 + 3x - 2) + (3x^2 + 2x + 10) - (8x^2 - 11)$$

$$(5x^2 + 3x - 2) + (3x^2 + 2x + 10) - (8x^2 - 11) = \square \text{ (Do not factor.)}$$

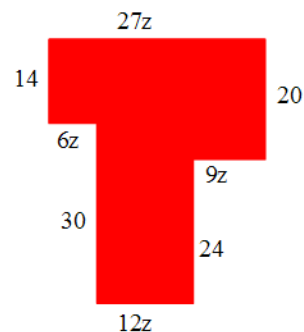
26. Perform the indicated operation.

Subtract  $(5y^2 - 3y - 7)$  from the sum of  $(2y^2 + 8)$  and  $(2y + 6)$ .

$$(5y^2 - 3y - 7) \text{ subtracted from the sum of } (2y^2 + 8) \text{ and } (2y + 6) \text{ is } \square.$$

(Do not factor.)

27. Recall that the perimeter of a figure such as the one to the right is the sum of the length of its sides. Find the perimeter of the figure.



$$\text{Perimeter} = \square \text{ (Simplify your answer.)}$$

28. Add.

$$(4a + 9b - 9) + (-19a - 7b + 6)$$

$$(4a + 9b - 9) + (-19a - 7b + 6) = \square \text{ (Do not factor.)}$$

29. Subtract.

$$(7x^2 + y^2 - 3) - (x^2 + y^2 - 5)$$

$$(7x^2 + y^2 - 3) - (x^2 + y^2 - 5) = \square \text{ (Do not factor.)}$$

30. Subtract.

$$(9r^2s - 4rs - 5 + 3r^2s^2) - (12sr^2 - 11 - 11r^2s^2)$$

$$(9r^2s - 4rs - 5 + 3r^2s^2) - (12sr^2 - 11 - 11r^2s^2) = \square$$

(Simplify your answer. Do not factor.)

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31. Multiply.

$$-7n^4 \cdot 3n^2$$

$$-7n^4 \cdot 3n^2 = \square \text{ (Simplify your answer.)}$$

32. Multiply.

$$2x(3x + 7)$$

$$2x(3x + 7) = \square \text{ (Simplify your answer.)}$$

33. Multiply.

$$-2a^2(5a^2 - 2a + 5)$$

$$-2a^2(5a^2 - 2a + 5) = \square \text{ (Simplify your answer.)}$$

34. Multiply.

$$\frac{1}{2}x^2(8x^2 - 4x + 1)$$

$$\frac{1}{2}x^2(8x^2 - 4x + 1) = \square$$

(Simplify your answer. Use integers or fractions for any numbers in the expression.)

35. Multiply.

$$(x + 2)(x + 5)$$

$$(x + 2)(x + 5) = \square \text{ (Simplify your answer.)}$$

36. Multiply.

$$\left(x + \frac{2}{7}\right)\left(x - \frac{1}{7}\right)$$

$$\left(x + \frac{2}{7}\right)\left(x - \frac{1}{7}\right) = \square$$

(Use integers or fractions for any numbers in the expression.)

37. Multiply.

$$(6x^2 + 5)(7x^2 + 2)$$

$$(6x^2 + 5)(7x^2 + 2) = \square$$

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38. Find the following product.

$$(7y - 9)^2$$

---

$$(7y - 9)^2 = \square$$

39. Multiply.

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

---

$$(x - 2)(x^2 - 6x + 5) = \square$$

40. Find the following product.

$$(2a - 9)(8a^2 + 6a - 2)$$

---

$$(2a - 9)(8a^2 + 6a - 2) = \square$$

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1.  $-1$

---

2.  $-1$

---

3.  $z^{14}$

---

4.  $(-4)^{11}$

---

5.  $a^{17}b^4$

---

6.  $n^{24}$

---

7.  $25a^6b^8c^2$

---

8.  $\frac{216x^3z^3}{y^6}$

---

9.  $64y^{21}$

---

10.  $-64$

---

11.  $pq^6$

---

12.  $\frac{d^3}{5}$

---

13.  $63x^7$

---

14.  $-72y^3z^9$

---

15.  $65$

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16.  $\frac{m^{24}}{81n^{12}}$

---

17.  $20x^2$

---

18.  $11x^2 - y$

---

19.  $-\frac{5}{6}x^3 + \frac{7}{5}x^2 + 7$

---

20.  $-13a^2 - 11ab + 11b^2$

---

21.  $4x + 9$

---

22.  $-2x^2 + 18$

---

23.  $13x^2 - 2$

---

24.  $7y^2 + 16y$

---

25.  $5x + 19$

---

26.  $-3y^2 + 5y + 21$

---

27.  $54z + 88$

---

28.  $-15a + 2b - 3$

---

29.  $6x^2 + 2$

---

30.  $14r^2s^2 - 3r^2s - 4rs + 6$

---

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31.  $-21n^6$

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32.  $6x^2 + 14x$

---

33.  $-10a^4 + 4a^3 - 10a^2$

---

34.  $4x^4 - 2x^3 + \frac{1}{2}x^2$

---

35.  $x^2 + 7x + 10$

---

36.  $x^2 + \frac{1}{7}x - \frac{2}{49}$

---

37.  $42x^4 + 47x^2 + 10$

---

38.  $49y^2 - 126y + 81$

---

39.  $x^3 - 8x^2 + 17x - 10$

---

40.  $16a^3 - 60a^2 - 58a + 18$

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