

**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

**Instructor:** Ray Brown  
**Course:** M055 Sum17 CAI 10054 G41

**Assignment:** ch12rev HW

1. Click the link below to watch a video reviewing concepts in this chapter.

Chapter 12 Review<sup>1</sup>

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- True - I understand the concept.  
 False - I am not understanding the concept and intend to seek assistance.

1: <http://www.screencast.com/t/hgbyEYKpQx0>

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Answer: True - I understand the concept.

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2. Evaluate.

$$8^2$$

Answer: 64

$$8^2 = \underline{\hspace{2cm}}$$

(Simplify your answer.)

3. Evaluate.

$$(-6)^3$$

$$(-6)^3 = \underline{\hspace{2cm}}$$

Answer: - 216

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4. Evaluate the expression.

$$-7^3$$

$$-7^3 = \underline{\hspace{2cm}}$$

Answer: - 343

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5. Evaluate.

$$(-11)^0$$

$$(-11)^0 = \underline{\hspace{2cm}}$$

Answer: 1

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6. Simplify the expression. Assume that all variables represent nonzero numbers.

$$5w^6 \cdot 8w^7$$

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$$5w^6 \cdot 8w^7 = \underline{\hspace{2cm}}$$

Answer:  $40w^{13}$

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7. Simplify the expression. Assume that all variables represent nonzero numbers.

$$(a^8b)^7 (a^6b^3)^3$$

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$$(a^8b)^7 (a^6b^3)^3 = \underline{\hspace{2cm}}$$

Answer:  $a^{74}b^{16}$

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8. Simplify.

$$\left(\frac{3}{5a}\right)^2$$

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$$\left(\frac{3}{5a}\right)^2 = \underline{\hspace{2cm}}$$

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

Answer:  $\frac{9}{25a^2}$

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9. Add the polynomials.

$$(6a^4b^3 + 4a^3b^4) + (a^3b^4 - 6a^4b^3)$$

The sum of the polynomials is  $\underline{\hspace{2cm}}$ . (Simplify your answer.)

Answer:  $5a^3b^4$

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10. Subtract.

$$(9x + 1) - (-8x + 9)$$

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$$(9x + 1) - (-8x + 9) = \underline{\hspace{2cm}}$$

(Simplify your answer.)

Answer:  $17x - 8$

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11. Subtract the polynomials.

$$(6c^5 + 7c^2 - 3) - (9c^5 - 5c^2 + 17)$$


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$$(6c^5 + 7c^2 - 3) - (9c^5 - 5c^2 + 17) = \underline{\hspace{2cm}}$$

(Simplify your answer.)

Answer:  $-3c^5 + 12c^2 - 20$

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12. Multiply and simplify the expression.

$$-y(2 + 4y)$$


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$$-y(2 + 4y) = \underline{\hspace{2cm}}$$

Answer:  $-2y - 4y^2$

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13. Click the link below to watch a short video explaining a specific topic in this section.

[Question 12.03.39<sup>2</sup>](#)

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- True - I understand the concept.  
 False - I am not understanding the concept and intend to seek assistance.

2: <http://www.screencast.com/t/JenzEBACH>

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Answer: True - I understand the concept.

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14. Multiply the given expression geometrically.

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


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	x	7
x	$x^2$	$7x$
2	$2x$	14

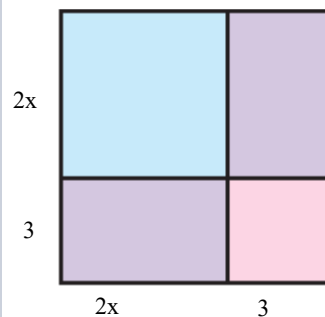
$$(x + 7)(x + 2) = \underline{\hspace{2cm}}$$

Answer:  $x^2 + 9x + 14$

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15. Do each part.

- (a) Find the area of the large square by multiplying its length and width.  
 (b) Find the sum of the areas of the two small squares inside the large square.



(a) The area of the large square is \_\_\_\_\_.

(b) The sum of the areas of the two small squares inside the large square is \_\_\_\_\_ . (Note: Squares have the same lengths on each side.)

Answers  $4x^2 + 12x + 9$

$4x^2 + 9$

16. Multiply and simplify the expression.

$$(14y + 3)(y - 6)$$

$(14y + 3)(y - 6) =$  \_\_\_\_\_

Answer:  $14y^2 - 81y - 18$

17. Multiply vertically.

$$(x - 3)(9x^2 + 5x - 3)$$

$(x - 3)(9x^2 + 5x - 3) =$  \_\_\_\_\_ (Simplify your answer.)

Answer:  $9x^3 - 22x^2 - 18x + 9$

18. Multiply.

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

$(3m + 2n)(3m - 2n) =$  \_\_\_\_\_

Answer:  $9m^2 - 4n^2$

19. Multiply.

$$(ab + 3)(ab - 3)$$

The product is \_\_\_\_\_.

Answer:  $a^2b^2 - 9$

20. Multiply.

$$(4b + 3)^2$$

$$(4b + 3)^2 = \underline{\hspace{2cm}}$$

Answer:  $16b^2 + 24b + 9$

21. Simplify the expressions.

a)  $\frac{-2^4}{2}$       b)  $\frac{1}{2^{-2}}$

a)  $\frac{-2^4}{2} = \underline{\hspace{2cm}}$  (Type an integer or a simplified fraction.)

b)  $\frac{1}{2^{-2}} = \underline{\hspace{2cm}}$  (Type an integer or a simplified fraction.)

Answers - 8

4

22. Simplify the expression.

$$p^{-3} \cdot p^{-8} \cdot p$$

Answer:  $\frac{1}{p^{10}}$

$$p^{-3} \cdot p^{-8} \cdot p = \underline{\hspace{2cm}}$$

(Simplify your answer. Use positive exponents only.)

23. Simplify.

$$(9m)^{-2}$$

$$(9m)^{-2} = \underline{\hspace{2cm}}$$
 (Use positive exponents only.)

Answer:  $\frac{1}{81m^2}$

24. Simplify the expressions.

$$\text{a) } \left( \frac{3a^2b}{4ab^{-2}} \right)^{-2} \qquad \text{b) } \left( \frac{4m^6n}{3m^{-4}n^3} \right)^2$$


---

$$\text{a) } \left( \frac{3a^2b}{4ab^{-2}} \right)^{-2} = \underline{\hspace{2cm}}$$

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

$$\text{b) } \left( \frac{4m^6n}{3m^{-4}n^3} \right)^2 = \underline{\hspace{2cm}}$$

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

Answers  $\frac{16}{9a^2b^6}$   
 $\frac{16m^{20}}{9n^4}$

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25. Divide.

$$\frac{18y^2 + 9y}{9y^7}$$


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$$\frac{18y^2 + 9y}{9y^7} = \underline{\hspace{2cm}}$$

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

Answer:  $\frac{2}{y^5} + \frac{1}{y^6}$

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26. Divide.

$$\frac{16x^4 - 4x + 8}{4x}$$


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$$\frac{16x^4 - 4x + 8}{4x} = \underline{\hspace{2cm}} \text{ (Simplify your answer.)}$$

Answer:  $4x^3 - 1 + \frac{2}{x}$

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27. Divide and check.

$$\frac{c^2 + 13c + 42}{c + 7}$$


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The quotient is \_\_\_\_\_ . (Simplify your answer.)

Answer:  $c + 6$

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28. Divide.

$$\frac{x^3 - x + 7}{x - 3}$$

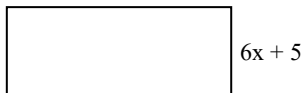

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$\frac{x^3 - x + 7}{x - 3} =$  \_\_\_\_\_ (Simplify your answer.)

Answer:  $x^2 + 3x + 8 + \frac{31}{x - 3}$

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29. Give the length of the rectangle. The area is  $6x^3 - 25x^2 - 49x - 20$  square units.



The answer is \_\_\_\_\_ units.  
(Simplify your answer.)

Answer:  $x^2 - 5x - 4$