

DEV 031 – Practice Final Exam

Name: _____

WEB/HYBRID: Class Time _____

Instructor: _____

LECTURE: Class Time _____

Date: _____

DIRECTIONS: Answer each of the following questions carefully and completely. Transfer your answers to the answer sheet. You may write on the test or scrap paper that you have been provided, but the instructor will grade **ONLY** what is on the answer sheet. *On the actual Final Exam, each answer will be worth 6 points, for a total of 300 points. **Answers must be labeled, rounded, and reduced where necessary.** You will have 1 hour and 50 minutes for this exam. You may use a calculator.*

For #1 – 7, simplify the expressions.

[1.4] 1) $-25 - 125 - (-7) - 12$

[1.4] 2) $|-20| + 5 - |2|$

[1.8] 3) $-4 \cdot 18 \div (-3) \cdot 2$

[1.8] 4) $(-2)^5 - (-3)^2$

[1.8] 5) $-2(3 - 1) - 3^2$

[1.8] 6) $\frac{-5 + 2 - 7}{6(3 - 3)}$

[1.8] 7) $\frac{-6 + 3^2 - (-7)}{7 - 9 - 3}$

[2.2A] 8) **Multiple choice:** $-3(X - 12) = -3X + 36$ is an example of _____.

A) the commutative property for addition

B) the associative property for addition

C) the distributive property

D) the addition property of equality

For #9 – 10, evaluate the expressions.

[2.1] 9) $-4A^3 + B^2$ when $A = -1$ and $B = 4$.

[2.1] 10) $\frac{-3R + 2S}{R - S}$ when $R = -6$ and $S = -4$.

For #11 – 12, simplify the expressions.

[2.2] 11) $9W + 4(3W - 5) - W$

[2.2B] 12) $7A - (3A - 5) - 7$

For #13 – 16, solve the equations.

[2.4] 13) $-2P + 6 = -12$

[2.4] 14) $-18 + 4 = 24 - 2R$

[2.5] 15) $6 - 2X = 14 + 4(X - 5)$

[2.5] 16) $4(3W - 6) = 72 + 3(W - 8)$

For #17 – 19, simplify the expressions.

[4.2] 17) $\frac{-18J^3K^4L^6}{27JK^4L^2}$

[4.3] 18) $\frac{12A^2}{35B^3} \div \frac{4A^4}{14B^5}$

[4.4] 19) $\frac{1}{2B} + \frac{D}{3}$

[4.5] 20) **Solve:** One cake recipe calls for $4\frac{1}{3}$ cups of flour. Another recipe calls for $6\frac{3}{4}$ cups of flour. How many cups of flour would be needed to make both recipes? Find an estimate (3 pts.), and then find the exact answer (3 pts.).

[4.6] 21) **Simplify:** $\left(-\frac{3}{4}\right)^2 \div \frac{12}{27}$

For #22 – 24, solve the equation.

[4.7] 22) $-\frac{2}{3}T = 16$

[4.7] 23) $-22 = 1\frac{3}{8}X$

[4.7] 24) $\frac{6}{7}Y + 4 = -8$

For #25 – 26, write an algebraic expression.

[3.3] 25) Six less than twice a number

[3.3] 26) The quotient of negative nine and a number is increased by five

For #27 – 32, write an equation (3 pts.) and solve (3 pts.). Label answers where appropriate (–1 point for missing label).

[3.2] 27) Find the length of one side of a square if it has an area of 49 square meters.

[3.1] 28) The perimeter of a rectangle is 124 cm. The width is 25 cm. Find the length.

[3.3] 29) Six times a number is eight less than twice the same number. Find the number.

[3.3] 30) You purchase four identical packages of light bulbs. You use two bulbs the first month, three bulbs the second month, and an entire package of bulbs the third month. At the end of the third month, you have 13 bulbs remaining. How many light bulbs were in each package?

[3.4] 31) Susanna and Nikki are splitting \$1,620 they earned for painting a house. Nikki worked twice as many hours as Susanna, so she should earn twice as much. How much should each woman receive?

Susanna	
Nikki	

[3.4] 32) The perimeter of a rectangle is 24 cm. The length of the rectangle is 3 cm more than twice the width. Find the length and width of the rectangle.

Length	
Width	

For #33 – 35, solve the equation.

[6.3] 33) $-3(X + 5) + 7 = -5X - 2(2 - X)$

[6.3] 34) $\frac{1}{5}(2X + 3) = \frac{1}{2}(X - 4)$

[6.3] 35) $-0.75(X + 4) = -1.5 - 4.5$

For #36 – 39, write an equation (3 pts.) and solve (3 pts.). Label answers where appropriate (-1 point for missing label).

[6.4] 36) If three times the sum of a number and six is increased by 4, the result is -2. Find the number.

[6.4] 37) A team plays a total of 26 games in a season. The number of losses is four times the number of tie games and the number of wins is twice the number of losses. How many games did they lose, tie, and win?

Losses	
Ties	
Wins	

[6.4] 38) Find the measure of an angle whose supplement measures 38° less than three times its complement.

Complement	
Supplement	

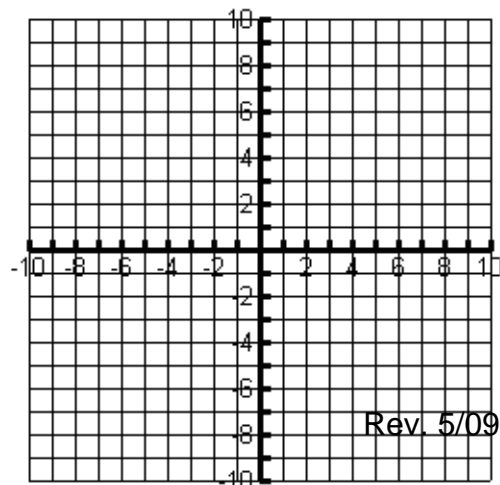
[6.4] 39) If six times the larger of two consecutive odd integers is added to the smaller, the result is 89. Find the two numbers.

Smaller	
Larger	

[6.5] 40) Solve the formula for the variable K: $2L = 4K - M$

[7.4] 41) Multiple choice: In which quadrant is the point (2, -5) located?

- A) Quadrant I
- B) Quadrant II
- C) Quadrant III
- D) Quadrant IV



For #42 – 46, simplify the expressions. Eliminate any negative or zero exponents.

[8.1] 42) $(-6M^7)(-5M^4)$

[8.1] 43) $(4G^5H)^3$

[8.2] 44) $(-4)^0 + 3^0$

[8.2] 45) F^{-4}

[8.2] 46) $\frac{H^{-3}}{H^5}$

[8.3] 47) **Convert to scientific notation:** 235,000

[8.3] 48) **Multiply:** $(4.8 \times 10^3)(2 \times 10^{-8})$. Express the final answer in scientific notation (3 pts.) and standard notation (3 pts.).

[2.1] 49) **Fill in the Blank:** Determine the most appropriate term (*evaluate*,
[2.2] *simplify*, or *solve*) to complete each sentence.

[2.3]

[p. 153]

- a) _____ the expression by replacing A with -4 and B with 3 .
- b) _____ the equation by finding the value for X.
- c) _____ the expression by combining like terms.

[2.3] 50) **Short answer:** A student solves the equation $3X - 5 = 2(X + 5)$ and determines that the solution is $X = 15$. Determine whether or not this solution is correct by finding the balance statement.

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WEB/HYBRID: Class Time _____

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Name: _____

Instructor: _____

Date: _____

1 _____

21 _____

2 _____

22 _____

3 _____

23 _____

4 _____

24 _____

5 _____

25 _____

6 _____

26 _____

7 _____

27 Equation _____

8 _____

Solution _____

9 _____

28 Equation _____

10 _____

Solution _____

11 _____

29 Equation _____

12 _____

Solution _____

13 _____

30 Equation _____

14 _____

Solution _____

15 _____

31 Equation _____

16 _____

Susanna _____ Nikki _____

17 _____

32 Equation _____

18 _____

Length _____ Width _____

19 _____

33 _____

20 Estimate _____

34 _____

Exact _____

35 _____

36 Equation _____

Solution _____

37 Equation _____

Losses _____ Ties _____ Wins _____

38 Equation _____

Solution _____

39 Equation _____

Smaller _____ Larger _____

40 _____

41 _____

42 _____

43 _____

44 _____

45 _____

46 _____

47 _____

48 Scientific Notation _____

Standard Notation _____

49 a) _____

b) _____

c) _____

50