

Student: _____
Date: _____
Time: _____

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

Assignment: Inter Test Two

1. Simplify the following expression.

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

$$(-4)^{-4} = \square \text{ (Type an integer or a simplified fraction.)}$$

2. Simplify the following expression.

$$2^{-1} + 8^{-1}$$

$$2^{-1} + 8^{-1} = \square \text{ (Type a simplified fraction.)}$$

3. Simplify the expression. Write the result using positive exponents only.

$$-7^0 + 9^0$$

$$-7^0 + 9^0 = \square$$

4. Simplify the expression. Write the result using positive exponents only.

$$\frac{p^5 p}{p^{-2}}$$

$$\frac{p^5 p}{p^{-2}} = \square$$

5. Simplify the following expression using positive exponents only.

$$\frac{-30a^3b}{6ab^7}$$

$$\frac{-30a^3b}{6ab^7} = \square \text{ (Simplify your answer.)}$$

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6. Simplify the expression. Write the result using positive exponents only.

$$\left(\frac{x^{-3}y^4}{x^5y^{10}}\right)^3$$

$$\left(\frac{x^{-3}y^4}{x^5y^{10}}\right)^3 = \square$$

7. Simplify the expression. Write the result using positive exponents only.

$$\frac{(a^5b^{-2})^{-5}}{(5a^4b^{-1})^{-2}}$$

$$\frac{(a^5b^{-2})^{-5}}{(5a^4b^{-1})^{-2}} = \square$$

8. Divide.

$$\frac{16p^6 + 12p^5}{4p}$$

$$\frac{16p^6 + 12p^5}{4p} = \square$$

9. Factor out the GCF from the polynomial.

$$27x^4 + 81x^3 - 63x^2 + 18$$

$$27x^4 + 81x^3 - 63x^2 + 18 = \square$$

10. Factor the following polynomial.

$$y(x^4 + 8) - 4(x^4 + 8)$$

$$y(x^4 + 8) - 4(x^4 + 8) = \square$$

11. Factor the following polynomial.

$$12x^2y - 16x^2 - 15y + 20$$

$$12x^2y - 16x^2 - 15y + 20 = \square$$

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12. Factor the trinomial completely.

$$x^2 - 2x - 24$$

$$x^2 - 2x - 24 = \square \text{ (Type P if the polynomial is prime.)}$$

13. Factor the trinomial completely.

$$x^2 + 36x + 5$$

$$x^2 + 36x + 5 = \square \text{ (Type P if the polynomial is prime.)}$$

14. Factor the trinomial completely.

$$a^2 - 9ab + 18b^2$$

$$a^2 - 9ab + 18b^2 = \square \text{ (Type P if the polynomial is prime.)}$$

15. Factor the trinomial completely. If the trinomial contains a greatest common factor (other than 1), factor out the GCF first.

$$3t^5 - 15t^4 + 18t^3$$

$$3t^5 - 15t^4 + 18t^3 = \square \text{ (Type P if the polynomial is prime.)}$$

16. Factor the trinomial completely.

$$2x^3y + 4x^2y^2 - 30xy^3$$

$$2x^3y + 4x^2y^2 - 30xy^3 = \square \text{ (Type P if the polynomial is prime.)}$$

17. Factor the polynomial by grouping.

$$5x^2 - 12x + 7$$

$$5x^2 - 12x + 7 = \square \text{ (Type P if the polynomial is prime.)}$$

18. Factor the polynomial by grouping.

$$15x^3 + 17x^2 + 2x$$

$$15x^3 + 17x^2 + 2x = \square \text{ (Type P if the polynomial is prime.)}$$

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19. Factor the following binomial completely.

$$x^2 - 25$$

$$x^2 - 25 = \square \text{ (Type P if the polynomial is prime.)}$$

20. Factor the following binomial completely.

$$25x^2 + 6$$

$$25x^2 + 6 = \square \text{ (Type P if the polynomial is prime.)}$$

21. Factor the following binomial completely.

$$625m^4 - 256$$

$$625m^4 - 256 = \square \text{ (Type P if the polynomial is prime.)}$$

22. Solve the equation.

$$7x(x - 1) = 0$$

$$x = \square \text{ (Use a comma to separate answers as needed.)}$$

23. Solve the equation.

$$x^2 - 13x + 30 = 0$$

$$x = \square$$

(Use a comma to separate answers as needed.)

24. Solve the equation.

$$x^2 - 3x = 10$$

The solution set is $\{\square\}$.

(Use a comma to separate answers as needed. Type N if the solution is the empty set.)

25. Solve.

$$x^2 = 4$$

$$x = \square \text{ (Use a comma to separate answers as needed.)}$$

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1. $\frac{1}{256}$

2. $\frac{5}{8}$

3. 0

4. p^8

5. $-\frac{5a^2}{b^6}$

6. $\frac{1}{x^{24} \cdot y^{18}}$

7. $\frac{25b^8}{a^{17}}$

8. $4p^5 + 3p^4$

9. $9(3x^4 + 9x^3 - 7x^2 + 2)$

10. $(x^4 + 8)(y - 4)$

11. $(4x^2 - 5)(3y - 4)$

12. $(x + 4)(x - 6)$

13. P

14. $(a - 6b)(a - 3b)$

15. $3t^3(t - 2)(t - 3)$

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16. $2xy(x - 3y)(x + 5y)$

17. $(5x - 7)(x - 1)$

18. $x(15x + 2)(x + 1)$

19. $(x + 5)(x - 5)$

20. P

21. $(25m^2 + 16)(5m + 4)(5m - 4)$

22. 1,0

23. 10,3

24. 5, -2

25. -2,2
