

**Preparation for Intermediate Algebra**  
**What you should know or review for success!**

Add or subtract as indicated. Write the answer in lowest terms. CHAPTER 1

1)  $\frac{4}{7} + \frac{5}{8}$

A)  $\frac{17}{14}$

B)  $\frac{3}{5}$

C)  $\frac{67}{56}$

D)  $\frac{9}{56}$

Use the distributive property to write the sum as a product.

2)  $(-1) \cdot 6 + (-1) \cdot a$

A)  $1(6 + a)$

B)  $-1(6 + a)$

C)  $-1(6a)$

D)  $-1(6 - a)$

Use the commutative and associative properties to simplify the expression.

3)  $\frac{2}{9} \left( \frac{9}{2}t \right)$

A)  $\frac{9}{2}t$

B)  $\frac{4}{81}t$

C)  $t$

D)  $\frac{85}{18}t$

Solve the equation. Chapter 2

4)  $3x + 6(2x - 3) = 4 - 7x$

A)  $-\frac{7}{4}$

B)  $1$

C)  $-1$

D)  $-\frac{7}{11}$

5)  $\frac{5(y - 4)}{3} = 2y - 2$

A)  $-26$

B)  $14$

C)  $26$

D)  $-14$

Simplify the expression. CHAPTER 5 - RULES OF EXPONENTS

6)  $\frac{6x^6}{x^2}$

A)  $1296x^4$

B)  $6x^8$

C)  $6x^4$

D)  $24x$

7)  $\frac{(x^2)^4}{(3x)^3}$

A)  $\frac{x^5}{3}$

B)  $\frac{x^{11}}{27}$

C)  $\frac{x^3}{27}$

D)  $\frac{x^5}{27}$

Add or Subtract as indicated. DO NOT MULTIPLY!

8)  $(7x - 7) + (11x - 3)$

A)  $18x^2 - 10$

B)  $77x^2 + 21$

C)  $18x + 10$

D)  $18x - 10$

9)  $(3x^2 - 8x + 5) - (x^2 - 4x + 2) + (8x^2 + 5)$

A)  $10x^2 - 4x + 8$

B)  $-6x^2 - 12x + 12$

C)  $10x^2 - 4x + 12$

D)  $10x^2 + 4x + 8$

Multiply.

10)  $3x(-6x^2 + 5x - 8)$

A)  $-18x^3 + 15x^2 - 24x$

B)  $-18x^3 + 5x - 8$

C)  $-18x^3 + 15x^2 - 24$

D)  $-18x^2 + 15x - 24$

11)  $(z - 2)(z - 10)$

A)  $2z + 20$

B)  $z^2 + 12z - 20$

C)  $2z^2 - 20$

D)  $z^2 - 12z + 20$

12)  $(5x + 5)(2x + 10)$

A)  $10x^2 + 60x + 60$

B)  $7x^2 + 60x + 50$

C)  $10x^2 + 60x + 50$

D)  $7x^2 + 60x + 60$

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

13)  $3^{-2}$

A)  $\frac{1}{6}$

B) 9

C)  $\frac{1}{9}$

D) -9

14)  $\frac{x^4(x-8)-9}{(x-2)-3}$

A)  $x^{74}$

B)  $x^{70}$

C)  $\frac{1}{x^{74}}$

D)  $x^{18}$

Find the quotient using long division.

15)  $\frac{x^2 + 11x + 15}{x + 3}$

A)  $x + 8 + \frac{9}{x + 3}$

B)  $x + 9$

C)  $\frac{x + 8}{x + 3}$

D)  $x + 8 - \frac{9}{x + 3}$

Factor the trinomial completely. CHAPTER 6

16)  $x^2 + x - 42$

A)  $(x - 7)(x + 6)$

B)  $(x + 1)(x - 42)$

C)  $(x - 6)(x + 7)$

D) prime

Factor the binomial completely.

17)  $81 - 49x^2$

A)  $(9 + 7x)^2$

B)  $(9 + 7x)(9 - 7x)$

C)  $(9 - 7x)^2$

D) prime

Factor the sum or difference of two cubes.

18)  $t^3 + 64$

A)  $(t + 4)(t^2 - 4t + 16)$

B)  $(t - 4)(t^2 + 4t + 16)$

C)  $(t - 64)(t + 1)(t - 1)$

D)  $(t + 4)(t^2 + 16)$

Solve the equation.

19)  $3x^2 + 15x + 18 = 0$

A)  $-3, -2$

B)  $5, 6$

C)  $2, 3$

D)  $-\frac{1}{2}, \frac{1}{2}$

Multiply or divide as indicated.

20)  $\frac{4x + 8}{15} \div \frac{5x + 10}{10}$

A)  $\frac{8}{15}$

B)  $\frac{9x + 18}{25}$

C)  $\frac{4x + 8}{75x}$

D)  $\frac{2}{15}$

Perform the indicated operation. Simplify if possible.

21)  $\frac{4}{m + 4} + \frac{m}{m + 4}$

A)  $\frac{4m}{m + 4}$

B)  $m$

C)  $1$

D)  $4$

Find the domain of the rational expression.

22)  $f(x) = \frac{1 - 4x}{x^2 - 2x - 15}$

A)  $\left\{x \mid x \text{ is a real number and } x \neq 5, x \neq -3, x \neq \frac{1}{4}, x \neq 0\right\}$

B)  $\{x \mid x \text{ is a real number and } x \neq -5, x \neq -3\}$

C)  $\{x \mid x \text{ is a real number and } x \neq 5, x \neq -3\}$

D)  $\left\{x \mid x \text{ is a real number and } x \neq 5, x \neq -3, x \neq \frac{1}{4}\right\}$

Perform the indicated operation. Simplify if possible.

23)  $\frac{42}{6x} + \frac{42}{7x}$

A)  $\frac{13}{x}$

B)  $\frac{13}{2x}$

C)  $\frac{13}{x^2}$

D)  $\frac{546}{42x}$

24)  $\frac{6}{x + 8} + \frac{9}{8x + 64}$

A)  $\frac{39}{4(x + 8)}$

B)  $\frac{15}{8(x + 8)}$

C)  $\frac{57}{8(x + 8)}$

D)  $\frac{57}{8(x + 8)^2}$

Solve the equation.

$$25) \frac{x}{4} - \frac{1}{2} = \frac{x+6}{2}$$

A) -8

B) -14

C) -7

D) -13

Simplify.

26)

$$\frac{1 + \frac{3}{7}}{2 + \frac{4}{7}}$$

A)  $\frac{10}{7}$

B)  $\frac{5}{9}$

C)  $\frac{4}{7}$

D)  $\frac{5}{7}$

## Answer Key

Testname: PREPARATION FOR INTERMEDIATE ALGEBRA(8-6-2014)

- 1) C
- 2) B
- 3) C
- 4) B
- 5) D
- 6) C
- 7) D
- 8) D
- 9) A
- 10) A
- 11) D
- 12) C
- 13) C
- 14) B
- 15) D
- 16) C
- 17) B
- 18) A
- 19) A
- 20) A
- 21) C
- 22) C
- 23) A
- 24) C
- 25) B
- 26) B