

FLORIDA COLLEGE BASIC SKILLS EXIT TEST
MATHEMATICS
VERSION 2

PRACTICE EXAM

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Perform the indicated operations.

1) $16 + 22 \cdot 15 - (-21)$

A) 1368

B) 74

C) 591

D) 367

1) _____

Find the quotient.

2) $-\frac{3}{5} \div \left(-\frac{1}{5}\right)$

A) $\frac{1}{3}$

B) 3

C) $-\frac{3}{25}$

D) -3

2) _____

Perform the indicated operation and reduce to lowest terms.

3) $13\frac{2}{15} - 7\frac{2}{9}$

A) 5

B) $6\frac{43}{45}$

C) $5\frac{41}{45}$

D) $4\frac{41}{45}$

3) _____

Perform the indicated operations.

4) $6(-9) + |7 - 12|$

A) 49

B) 59

C) -59

D) -49

4) _____

Evaluate.

5) $7 \cdot 3 - 36 \div 9$

A) $-\frac{5}{3}$

B) 0

C) 25

D) 17

5) _____

6) $360 - 2^4 \cdot 24 \div (4 \cdot 3 - 2 \cdot 2)$

A) 1032

B) 684

C) 312

D) 324

6) _____

Evaluate the expression, given $x = -2$, $y = 3$, and $a = -4$.

7) $(-2a)(2x - 7y)$

A) 160

B) 200

C) -200

D) -136

7) _____

Simplify the expression by combining like terms.

8) $-6(8r + 7) + 4(2r + 8)$

A) $-40r - 10$

B) $-90r$

C) $-40r + 7$

D) $2r + 1$

8) _____

Solve the equation.

9) $6x - (2x - 1) = 2$

A) $\left\{-\frac{1}{4}\right\}$

B) $\left\{-\frac{1}{8}\right\}$

C) $\left\{\frac{1}{8}\right\}$

D) $\left\{\frac{1}{4}\right\}$

9) _____

10) $-7x + 6(3x - 4) = -7 - 6x$

- A) $\{1\}$ B) $\left\{-\frac{31}{17}\right\}$ C) $\left\{-\frac{31}{5}\right\}$ D) $\{-1\}$

10) _____

Solve the formula for the specified variable.

11) $I = \frac{nE}{nr + R}$ for n

- A) $n = IR(Ir - E)$ B) $n = \frac{IR}{Ir + E}$ C) $n = \frac{-IR}{Ir - E}$ D) $n = \frac{-R}{Ir - E}$

11) _____

12) $F = \frac{9}{5}C + 32$ for C

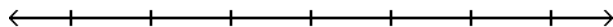
- A) $C = \frac{5}{9}(F - 32)$ B) $C = \frac{F - 32}{9}$ C) $C = \frac{5}{F - 32}$ D) $C = \frac{9}{5}(F - 32)$

12) _____

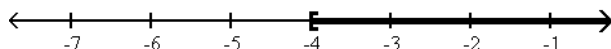
Solve the inequality. Write the solution set in interval notation and graph it.

13) $-5(2y - 11) < -15y + 35$

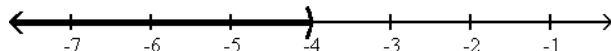
13) _____



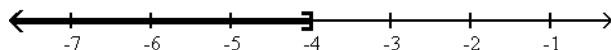
- A) $[-4, \infty)$



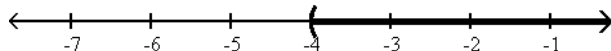
- B) $(-\infty, -4)$



- C) $(-\infty, -4]$



- D) $(-4, \infty)$



Use a formula to solve the problem.

14) A rectangular Persian carpet has a perimeter of 184 inches. The length of the carpet is 24 inches more than the width. What are the dimensions of the carpet?

14) _____

- A) 34 inches by 58 inches B) 80 inches by 104 inches
C) 68 inches by 92 inches D) 58 inches by 82 inches

Solve the problem.

15) If 15 is added to a number and the sum is doubled, the result is 14 less than the number. Find the number.

15) _____

- A) -16 B) 16 C) -44 D) -1

16) The sum of twice a number and 5 less than the number is the same as the difference between -41 and the number. What is the number?

16) _____

- A) -18 B) -9 C) -8 D) -10

Simplify the expression. Use positive exponents. Assume variables represent nonzero real numbers.

17) $(3p^2s^4)^4(s^4)$ 17) _____
A) $81p^6s^64$ B) $81p^8s^{20}$ C) $3p^8s^{20}$ D) $81p^6s^{12}$

18) $(-r^3s)^2(-r^4s^3)^5$ 18) _____
A) $-r^{-14}s^{17}$ B) $-r^{10}3s^{24}5$ C) $r^{26}s^{17}$ D) $-r^{26}s^{17}$

Use a combination of rules for exponents to simplify. Write answers with only positive exponents. Assume that all variables represent nonzero real numbers.

19) $\frac{(x^4y^{-3})^5}{x^{-5}y^2}$ 19) _____
A) $\frac{y^{20}}{x^{15}}$ B) $\frac{x^{20}}{y^{15}}$ C) $\frac{y^{25}}{x^{17}}$ D) $\frac{x^{25}}{y^{17}}$

Evaluate.

20) $(-9)^0 + (-6)^0$ 20) _____
A) -15 B) 0 C) -2 D) 2

Write the number without exponents.

21) 8.35×10^{-4} 21) _____
A) .0000835 B) .00835 C) .000835 D) -835,000

Write the number in scientific notation.

22) 3,360,980 22) _____
A) 3.36098×10^7 B) 3.36098×10^{-6} C) 3.36098×10^1 D) 3.36098×10^6

Subtract.

23) $(6n^6 + 13n^3 + 19) - (-13n^3 + 8n^6 + 10)$ 23) _____
A) $33n^9$ B) $-2n^6 + 26n^3 + 9$
C) $-2n^6 + 21n^3 + 29$ D) $-2n^6 + 26n^3 + 29$

Find the product.

24) $(-3x - 5)(x - 7)$ 24) _____
A) $-3x^2 + 16x + 16$ B) $-3x^2 + 35x + 16$ C) $-3x^2 + 14x + 35$ D) $-3x^2 + 16x + 35$

Factor completely.

25) $25y^4 - 36$ 25) _____
A) $(5y^2 + 6)(5y^2 - 6)$ B) Prime
C) $(5y^2 + 6)^2$ D) $(5y^2 - 6)^2$

Factor by grouping.

26) $8x^2 - 20x - 6x + 15$ 26) _____
A) $(4x - 3)(2x - 5)$ B) $(8x + 3)(x + 5)$ C) $(8x - 3)(x - 5)$ D) $(4x + 3)(2x + 5)$

Factor the expression completely.

27) $20z^2 - 3z - 9$

A) Prime

B) $(4z + 3)(5z - 3)$

C) $(4z - 3)(5z + 3)$

D) $(20z - 3)(z + 3)$

27) _____

Solve the equation.

28) $x^2 + 2x - 120 = 0$

A) -12, 10

B) 12, -10

C) -12, 1

D) 12, 10

28) _____

29) $9k^2 - 53k - 6 = 0$

A) -9, 6

B) $\frac{1}{53}, -\frac{1}{9}$

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

D) $-\frac{1}{9}, 6$

29) _____

Reduce the rational expression to lowest terms.

30) $\frac{a^2 - 2a}{(a + 3)(a - 2)}$

A) $\frac{a - 2}{a + 3}$

B) $\frac{a}{a + 3}$

C) $\frac{1}{a + 3}$

D) $\frac{a^2}{a + 3}$

30) _____

31) $\frac{y^2 - 7y - 18}{y^2 - 3y - 54}$

A) $-\frac{y^2 - 7y - 18}{y^2 - 3y - 54}$

B) $\frac{-7y - 1}{-3y - 3}$

C) $\frac{-7y - 18}{-3y - 54}$

D) $\frac{y + 2}{y + 6}$

31) _____

Solve.

32) On a map, the length of a nature-center trail is 9.6 centimeters. If the scale is 2 centimeters to 20 kilometers, what is the actual length of the trail?

A) 97 kilometers

B) 96 kilometers

C) 100 kilometers

D) 192 kilometers

32) _____

Simplify. Assume that all variables represent nonnegative numbers.

33) $8\sqrt{72x^7}$

A) $14x^4\sqrt{2x}$

B) $48x^4\sqrt{2x}$

C) $14x^3\sqrt{2x}$

D) $48x^3\sqrt{2x}$

33) _____

34) $\sqrt{80x^2y}$

A) $4x\sqrt{5y}$

B) $4xy\sqrt{5}$

C) $4x^2\sqrt{5y}$

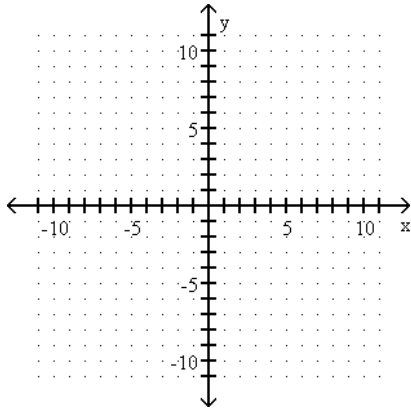
D) $4xy^2\sqrt{5}$

34) _____

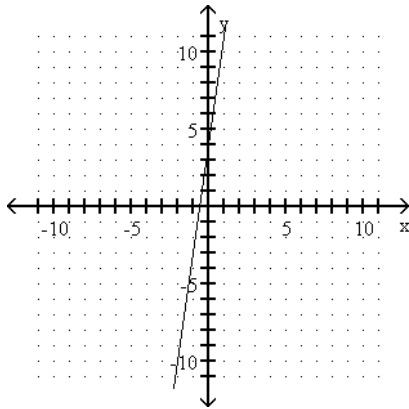
Graph the linear equation.

35) $7x = y + 4$

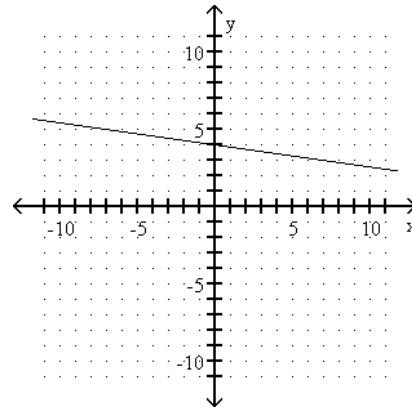
35) _____



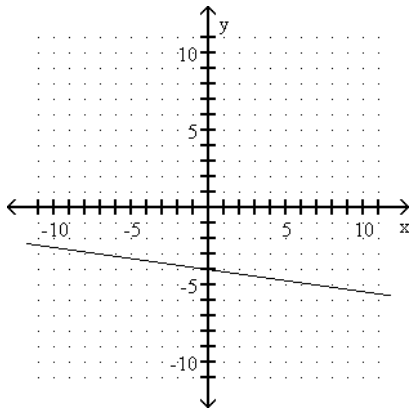
A)



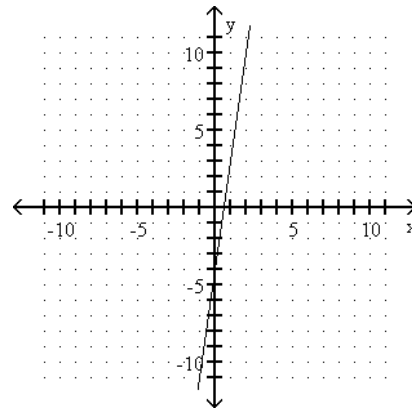
B)



C)



D)



Find the intercepts for the graph of the equation.

36) $-2x + y = 8$

36) _____

A) (0, -8) (0, -8)

B) (-8, 0) (-8, 0)

C) (8, -8) (-8, 8)

D) (-4, 0) (0, 8)