East Central College

Accuplacer Practice Test – Math

Arithmetic

Problems with an asterisk (*) can be solved using a calculator.

1. Amy is hiking at an altitude of 5987 feet. If you increase the altitude by 2398 feet, at what altitude would she be?

A. 3589
B. 8385
C. 3699
D. 8285

2. Tom and Sally made an apple pie. Tom ate 1/3 of the pie and Sally had 2/5. How much pie is left?

A. $^{5}/_{8}$
B. $^{3}/_{8}$
C. $^{11}/_{15}$
D. $^{4}/_{15}$

3. The average height for a group of 20 children is 130 centimeters. If the average height for ¾ of these children is 140 centimeters, what is the average height, in centimeters, for the rest of the children?

A. 100
B. 110
C. 120
D. 135

*4. There were 160 school days last year and Dan attended 65% of them. How many days did he attend?

A. 94
B. 104
C. 114
D. 124

5. $8/25$ is equivalent to

A. 3.13
B. 1.32
C. 0.32
D. 0.83

6. Which of the following is the least?

A. 0.205
B. 0.502
C. 0.025
D. 0.25

7. 5.36 x 3.4 =

A. 18.224
B. 8.76
C. 18.534
D. 15.36

8. $4\ ^{2}/_{3} - 3\ ^{1}/_{2} =$

A. $^{49}/_{6}$
B. $^{7}/_{5}$
C. $^{7}/_{6}$
D. $^{7}/_{2}$

9. What is 8.3678 rounded to the nearest hundredth?

A. 8.37
B. 8.4
C. 8
D. 8.36

10. 2.32 + 3.4 + 6.002 =

A. 62.68
B. 211.4
C. 8.33
D. 11.722

11. Write 0.375 as a fraction and reduce it to lowest terms.
    A. 37½
    B. $375/100$
    C. $3/8$
    D. $75/3$

12. $(3/5 + 1/2) \bullet 1/4 =$
    A. $11/40$
    B. $1/28$
    C. $3/40$
    D. $5/16$

13. $3.56 \times 10^2 =$
    A. 35.6
    B. 0.356
    C. 356
    D. 3, 560

14. What is 20% of 575?
    A. 1150
    B. 1.15
    C. 11.5
    D. 115

15. A brownie recipe requires $1\frac{1}{3}$ cups of cocoa for one pan of brownies. How Many cups of cocoa are required for 9 pans?

A. 10 cups
B. 6 cups
C. 12 cups
D. 3 cups

16. $\frac{120}{400} = \frac{?}{100}$

A. 30
B. 12
C. 18
D. 25

17. $120 \div \frac{3}{5} =$

A. 40
B. 8
C. 200
D. 72

18. What is 6.75 divided by 2.5?

A. 2.7
B. 0.27
C. 0.027
D. 27

19. Write $\frac{17}{20}$ as a percent.

A. .85%
B. 85%
C. 8.5%
D. 80.5%

20. $(2.2 \bullet 6.9) - 0.7 =$

A. 144.8
B. 15.11
C. 14.48
D. 151.1

Elementary Algebra

1. What is the sum of $-\frac{1}{3}$ and $\frac{3}{4}$?
   A. $-\frac{1}{15}$
   B. $\frac{2}{7}$
   C. $\frac{5}{12}$
   D. $-\frac{4}{7}$

2. If -3 is added to the sum of -17 and 12, what is the new sum?
   A. 4
   B. -8
   C. 8
   D. -4

3. $12x - 4 =$
   A. $12x$
   B. $3(x - 4)$
   C. $4(3x - 1)$
   D. $12(x - 3)$

4. If $x^2 + 6x + 8 = 0$, then x is
   A. -4 or -2
   B. 4 or 2
   C. 3 or -3
   D. 6 or -2

5. If $x = \left|-4 - \left(-2\frac{2}{3}\right)\right|$, find x .
   A. $-1\frac{1}{3}$
   B. $1\frac{1}{6}$
   C. $-1\frac{1}{6}$
   D. $1\frac{1}{3}$

6. If $5(2x + 4) - (2x + 2) = -2$ then x=
   A. $\frac{2}{26}$
   B. $\frac{8}{20}$
   C. $\frac{12}{20}$
   D. $\frac{5}{2}$

7. Which pair of equations does NOT have a solution?

   A. $9x + 3y = -3$ $\quad 2x - 3y = -8$
   B. $x + 2y = 8$ $\quad x = 4-2y$
   C. $5x - 7y = -16$ $\quad 2x + 8y = 26$
   D. $5x - 9y = 7$ $\quad 7y - 3x = -5$

* 8. The equation of the line that contains the point (-7, 0) and is parallel to the line 5x + 2y = 6 is indicated by

A. y= $^{2}/_{5}$ x - $^{35}/_{2}$
B. y= 2x - 5
C. y= $^{2}/_{5}$ x - 6
D. y= $^{-5}/_{2}$ x - $^{35}/_{2}$

9. Simplify $\frac{2}{x} + \frac{3}{y}$ completely.

A. $\frac{2}{xy}$

B. $\frac{3}{xy}$

C. $\frac{2y+3x}{xy}$

D. $\frac{3}{x+y}$

*10. Heather and Tim rented a car on a family vacation. The rental agency charged $40 per day and 55 cents per mile. They rented the car for three days and the total rental cost was $350.00. How many miles did they drive the rental car?

A. About 563 miles
B. About 418 miles
C. About 285 miles
D. About 150 miles

College Algebra

1. Give the exponential representation of the radical expression $\frac{1}{\sqrt{x^3}}$.

A. x $^{3}/_{2}$
B. x $^{-3}/_{2}$
C. x $^{-2}/_{3}$
D. x^{-3}

2. Solve for m: $\frac{-3}{4}$ (m-2) < $\frac{2}{3}$ (4-m)
   A. m < -14
   B. m < 50
   C. m > -14
   D. m > - 32

3. Given f(x) = 7x - 5, find g(x) where g(x) is the inverse of f.
   A. g(x) = 7x + 5
   B. g(x) = $\frac{-x+5}{7}$
   C. g(x) = $\frac{x+5}{7}$
   D. g(x) = $\frac{-x}{5}$ + 7

4. $|2x - 3| \leq 5$
   A. x = 4
   B. x = 2 , x = 8
   C. $x \geq 2$, $x \leq 8$
   D. $-1 \leq x \leq 4$

5. If log x = 5, then x =
   A. 5^{10}
   B. 100,000
   C. 50
   D. $^{5}/_{10}$

6. $\frac{5}{2+\frac{3}{x}}$ =
   A. 3x
   B. $\frac{5}{3x+2}$
   C. $\frac{5x}{2x+3}$
   D. $\frac{5}{2} + \frac{3}{x}$

7. If θ is an acute angle and $\tan\theta = \frac{1}{\sqrt{3}}$, then $\cos\theta$ =

   A. -1
   B. 0
   C. $^1/_2$
   D. $^{\sqrt{3}}/_2$

8. A root of $9x^2$ - 6x - 4 = 0 is

   A. $\frac{-1+\sqrt{13}}{3}$
   B. $1 + \sqrt{5}$
   C. $\frac{-1+\sqrt{5}}{3}$
   D. $\frac{1+\sqrt{5}}{3}$

9. The graph of f(x) = $(x + 3)^2$ is the same as the graph of f(x) = x^2 except that it is shifted

   A. three units down
   B. three units up
   C. three units to the right
   D. three units to the left

10. Simplify $(4 - 3i)^2$

   A. 16 - $9i$
   B. 8 + $6i^2$
   C. 7 - $24i$
   D. 24

Answer Sheet

Arithmetic

1. B
2. D
3. A
4. B
5. C
6. C
7. A
8. C
9. A
10. D
11. C
12. A
13. C
14. D
15. C
16. A
17. C
18. A
19. B
20. C

Elementary Algebra

1. C
2. B
3. C
4. A
5. D
6. D
7. B
8. D
9. C
10. B

College Algebra

1. B
2. C
3. C
4. D
5. B
6. C
7. D
8. D
9. D
10. C