

Test Your Basic Algebra IQ

Directions: Put the letter for the best answer in the space provided. Time limit is 30 minutes.

_____ 1. $6 - 9(5 - 7) =$

- (A) -12 (B) -46 (C) 24 (D) -13
-

_____ 2. $5(m - 6) =$

- (A) $5m - 6$ (B) $5m - 11$ (C) $5m - 30$ (D) $5m - 1$
-

_____ 3. If $X = 4$ then $X^2 - X + 3 =$

- (A) 7 (B) 15 (C) 5 (D) 67
-

_____ 4. $6X - 6Y + 3(2X - 4Y) =$

- (A) $12X - 10Y$
(B) $36X^2 + 24Y^2$
(C) $864XY$
(D) $12X - 18Y$
-

_____ 5. If $m = -2$ and $n = -3$ then $n - m =$

- (A) -1 (B) 6 (C) -5 (D) -6
-

_____ 6. Find the value of $\frac{X - 4}{X + 3}$ when $X = -3$.

- (A) $-\frac{7}{6}$ (B) -7 (C) undefined (D) 0
-

_____ 7. If $X = -5$ then $X^2 - X =$

- (A) -15 (B) 20 (C) 30 (D) -20
-

_____ 8. $(2X^2 Y)^3 (2XY^4)^2 =$

- (A) $2^5 X^8 Y^{11}$ (B) $4^5 X^8 Y^{11}$ (C) $2^6 X^7 Y^9$ (D) $2^6 X^{12} Y^{24}$

_____ 9. If $3X - 11 = 9 - 2X$ Then $X =$
(A) $X = 4$ (B) $X = 20$ (C) $X = 2$ (D) $X = -99$

_____ 10. $(3M - 2)(2M - 3) =$
(A) $6M^2 - 6$
(B) $5M - 5$
(C) $6M^2 - M + 6$
(D) $6M^2 - 13M + 6$

_____ 11. $(X - 3)^2 =$
(A) $X^2 - 9$
(B) $X^2 + 9$
(C) $X^2 - 6X + 9$
(D) $X^2 + 6X - 9$

_____ 12. $K - 8 > 2K - 10$
(A) $X > -2$ (B) $K > 2$ (C) $K < 2$ (D) $K > 6$

_____ 13.
 $\frac{X}{20} \div \frac{X}{40} =$
(A) $800X^2$ (B) $20X$ (C) $\frac{1}{2}$ (D) 2

_____ 14. $X^2 - 16 =$
(A) $(X - 16)(x + 16)$
(B) $(X - 4)(X - 4)$
(C) $(X - 4)(X + 4)$
(D) $(X - 8)(X + 8)$

_____ 15. $(2a - 2b - 7) - (a + 2b - 6) =$
(A) $a - 4b - 1$
(B) $a - 4b - 13$
(C) $2a^2 - 4b^2 - 42$
(D) $a - 1$

_____ 16. If $\frac{1}{5}$ of a number is 20, what is $\frac{1}{4}$ of the number?

- (A) 25 (B) 1 (C) 400 (D) 16
-

_____ 17. If $X = -5$ and $Y = 2$, then $3X^2 Y =$

- (A) 60 (B) -60 (C) 150 (D) 8
-

_____ 18. $(M^2 - M) + (5 - M) - (5M^2 - 4) - (-2) =$

- (A) $-4M^2 - 11$
(B) $-4M^2 - 2M + 7$
(C) $-5M^4 - M^2 - 40$
(D) $-4M^2 - 2M + 11$
-

_____ 19. If $MX + Y = 7$ and $M \neq 0$, then $X =$

- (A) $7 - Y - M$ (B) $\frac{7 - Y}{M}$ (C) $\frac{7}{M + Y}$ (D) $\frac{7Y}{M}$
-

_____ 20. If 20 pounds of seed are needed to seed 8 acres of land, how many pounds of seed are needed to seed 12 acres of land?

- (A) 30 (B) 32 (C) 64 (D) 28
-

_____ 21. If $2(X - 3) > 18$, then

- (A) $X > 12$ (B) $X > 6$ (C) $X < 12$ (D) $X > \frac{15}{2}$
-

_____ 22. $3X^2 - 19X - 14 =$

- (A) $(3X - 2)(X + 7)$
(B) $(3X - 7)(X + 2)$
(C) $(3X - 14)(X + 1)$
(D) $(3X + 2)(X - 7)$

_____ 23. $(3X^2Y)(-2XY)(-X) =$

- (A) $6X^4Y^2$
 - (B) $6X^2Y$
 - (C) $-5X^4Y^2$
 - (D) $-6X^4Y^2$
-

_____ 24. $2 - 9 =$

- (A) 11
 - (B) 7
 - (C) -7
 - (D) 18
-

_____ 25. $\sqrt[3]{-27} =$

- (A) -3
 - (B) -81
 - (C) -9
 - (D) 3
-

_____ 26. $a^3b^2 + a^2b =$

- (A) $ab(a^2b + a)$
 - (B) $ab(a^2b + ab)$
 - (C) $a^3b^2(1 + a^2b)$
 - (D) $a^2b(ab + 1)$
-

_____ 27. If the sum of two numbers is 100, and one of the numbers is Y, what is the other number?

- (A) $100 - Y$
 - (B) $Y - 100$
 - (C) $Y + 100$
 - (D) $100Y$
-

_____ 28. Which of the following is a factor of $X^2 - X - 30$?

- (A) $(X - 6)$
 - (B) $(X - 5)$
 - (C) $(X + 6)$
 - (D) $(X - 30)$
-

_____ 29. If $X - 5 = 5^2$, then $X =$

- (A) 30
 - (B) 20
 - (C) 5
 - (D) -125
-

_____ 30. If $2(X - 10) = 4(3X + 5)$ then $X =$

- (A) 4
- (B) -4
- (C) 0
- (D) $\frac{1}{2}$

_____ 31. If $\frac{X}{6} - 2 = 1$, then $X =$

- (A) 18 (B) 9 (C) 13 (D) 8
-

_____ 32. The average of two numbers is 75. One of the numbers is twice as big as the other. What is the smaller of the two numbers?

- (A) 50 (B) 225 (C) 25 (D) 100
-

_____ 33. $2^4 + 2^3 + 2^2 + 2 + 2^0 =$

- (A) 31 (B) 21 (C) 30 (D) 10^{10}
-

_____ 34. $40X^5Y^4 \div 8X^4Y^5 =$

- (A) $5XY$ (B) 5 (C) $\frac{5X}{Y}$ (D) $\frac{1}{5XY}$
-

_____ (35) $\sqrt{72} =$

- (A) 36 (B) 5184 (C) $6\sqrt{2}$ (D) $2\sqrt{6}$
-

Answers: (1) (C), (2) (C), (3) (B), (4) (D), (5) (A), (6) (C), (7) (C),
(8) (A), (9) (A), (10) (D), (11) (C), (12) (C), (13) (D), (14) (C),
(15) (A), (16) (A), (17) (C), (18) (D), (19) (B), (20) (A), (21) (A),
(22) (D), (23) (A), (24) (B), (25) (A), (26) (D), (27) (A), (28) (A),
(29) (A), (30) (B), (31) (A), (32) (A), (33) (A), (34) (C), (35) (C)

Grade Yourself:

- If you scored 32 - 35 correct, give yourself an A. Excellent!
If you scored 28 - 31 correct, give yourself a B. Very Good!
If you scored 25 - 27 correct, give yourself a C. Good, but need to review.
If you scored 21 - 24 correct, give yourself a D. Need to do some work to improve.
If you scored below 21, then you failed. Need to work hard and improve your skills.