

BASIC ALGEBRA REVIEW

1) $2(a + 4) - (3 - a) + 4a =$

- a. $-3a + 11$
- b. $5a + 5$
- c. $7a + 5$
- d. $-a + 5$

2) $3x + y - 5x =$

- a. $-2x^2 + y$
- b. $-2x + y$
- c. $-2 + y$
- d. $8x + y$

3) If $x = -5$ and $y = 2$, then $\frac{y - x}{y} =$

- a. $-\frac{3}{2}$
- b. 5
- c. -5
- d. $\frac{7}{2}$

4) Evaluate $-x^2 + 4x - 3$ when $x = -2$

- a. 1
- b. -15
- c. -7
- d. 7

5) If $2x + 2 = 5$, then $x + 5 =$

- a. $-\frac{7}{2}$
- b. $\frac{3}{2}$
- c. $\frac{13}{2}$
- d. 4

6) $\frac{x^3}{x^{-2}} =$

- a. x^6
- b. x^{-6}
- c. x^{-10}
- d. x^{10}

7) $(-2)^{-5} =$

- a. -32
- b. $-\frac{1}{32}$
- c. 10
- d. $\frac{1}{32}$

8) If $4x - 4 = 3$, then $x =$

- a. $\frac{7}{4}$
- b. $\frac{4}{7}$
- c. $-\frac{1}{4}$
- d. $\frac{1}{4}$

9) If $\frac{x}{2} - \frac{7}{10} = \frac{1}{5}$, then $x =$

a. $\frac{6}{5}$

b. $\frac{9}{5}$

c. $\frac{5}{9}$

d. $-\frac{9}{5}$

10) If $-3t + 7 = -4$, then $t =$

a. $\frac{11}{3}$

b. $-\frac{11}{3}$

c. $\frac{3}{11}$

d. -1

11) If $2y - 5 = 3y + 1$, then $y =$

a. -6

b. 6

c. $\frac{1}{6}$

d. $\frac{6}{5}$

12) $5(x - 4) + 1 = 2x$, then $x =$

a. 1

b. 5

c. $\frac{19}{3}$

d. $-\frac{11}{3}$

13) Solve $2t - (s + t) = 3 - 4s$ for s

a. $\frac{t-3}{-3}$

b. $t - 1$

c. $\frac{t-3}{3}$

d. $\frac{t-3}{-5}$

14) Solve $ax = bx + c$ for x

a. $\frac{c}{a-b}$

b. $\frac{bx+c}{a}$

c. $\frac{ax-c}{b}$

d. $\frac{a-b}{c}$

15) Solve $\frac{x+1}{4} - \frac{2x-3}{3} = \frac{1}{6}$

a. $-\frac{13}{5}$

b. $\frac{13}{5}$

c. $\frac{5}{11}$

d. $\frac{11}{-5}$

16) Solve $PQ = P + Q$ for P

a. $\frac{Q-1}{Q}$

b. $\frac{Q}{Q+1}$

c. 0

d. $\frac{Q}{Q-1}$

- 17) A represents the number of adults and C represents the number of children attending a basketball game. Adult tickets cost \$2.50 and children's tickets cost \$1.50. Which of the following represents the total income from the game?

a. $A + C$

b. $4(A + C)$

c. $2.50A + 1.50C$

d. $1.50A + 2.50C$

- 18) Tom has one fewer than 4 times as many books as Nancy has. Together they have 39 books. Which of these equations could be used to find x , the number of books Nancy has?

a. $x + 4(x - 1) = 39$

b. $4x - 1 + x = 39$

c. $4(x - 1) = 39$

d. $4x - 1 = 39$

- 19) Jeff has 3 more goldfish than Todd has. If x represents the number of goldfish Todd has, which of these represents the number of goldfish Jeff has?
- $3x$
 - $x - 3$
 - $3 + x$
 - $3 - x$
- 20) Ray has x dollars. A book cost y dollars. Which of the following represents the number of dollars he will have left after buying the books?
- $y - x$
 - $x + y$
 - $x - y$
 - 0
- 21) The sum of two consecutive even integers is 74. Find the integers.
- 36 and -38
 - -36 and -38
 - 36 and 38
 - $36\frac{1}{2}$ and $37\frac{1}{2}$
- 22) $(2t - 3)^2 =$
- $4t^2 - 6t + 9$
 - $4t^2 - 12t + 9$
 - $4t^2 + 9$
 - $4t^2 - 9$
- 23) Factor $12b^2 + 4b - 5$
- $(12b + 5)(b + 1)$
 - $(3b + 5)(4b - 1)$
 - $(6b + 5)(2b - 1)$
 - $(6b + 1)(2b - 5)$
- 24) Factor $t^2 - 2t - 15$
- $(t - 3)(t + 5)$
 - $(t + 15)(t - 1)$
 - $(t - 15)(t + 1)$
 - $(t + 3)(t - 5)$

25) $(2x - 5)(3x + 1) =$

- a. $6x^2 + 5$
- b. $6x^2 - 13x - 5$
- c. $6x^2 - 13x + 5$
- d. $6x^2 - 5$

26) Solve: $(3a + 4)(a - 1) = -2$

- a. -1 and -2
- b. 0
- c. -3 and -2
- d. -1 and $\frac{2}{3}$

27) Factor $x^2 - 49$

- a. x g $x - 7$ g 7
- b. $(x + 7)(x - 7)$
- c. $(x - 7)^2$
- d. $(x + 7)^2$

28) $(t^2 + 1)(2t^2 - 4t - 5) =$

- a. $2t^4 - 6t^2$
- b. $2t^4 - 2t^3 - 5t^2 - 5$
- c. $2t^4 - 2t^3 - 5t^2 - 4t - 5$
- d. $2t^4 - 4t^3 - 3t^2 - 4t - 5$

29) Factor: $3x^2 + 7x + 4$

a. $(3x - 4)(x - 1)$

b. $(x + 2)(3x + 2)$

c. $(3x + 4)(x + 1)$

d. $(x - 2)(3x - 2)$

30) $(2x^2 - x - 7) - (x^3 - 2x^2 + x) =$

a. $-x^3 - 7$

b. $-x^3 + 4x^2 - 2x - 7$

c. $x^3 - 2x - 7$

d. $-x^3 - 2x - 7$

31) In the solution of these equations, what is the value of x ?

$$2x - y = 2$$

$$-x + 3y = -11$$

a. 3

b. -1

c. $-\frac{9}{5}$

d. $-\frac{5}{9}$

32) Is $(-3, 2)$ a solution of this system of equations?

$$2x - 5y = -16$$

$$-x + 2y = 9$$

a. yes

b. no

33) $\frac{7}{x} - \frac{4}{y} =$

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

b. $\frac{7y-4x}{xy}$

c. $\frac{3}{x-y}$

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

34) $\frac{4x^3y^2z}{-12x^2y^3z^2} =$

a. $\frac{-x}{yz}$

b. $\frac{-3x}{yz}$

c. $\frac{-x}{3yz}$

d. $\frac{x}{3yz}$

35) If $\frac{2t+4}{t^2-1} = \frac{3}{t-1}$, then $t =$

a. -1

b. 1

c. 1 and -1

d. there is no solution

$$36) \frac{6a - 4a^2}{4ab + 4ab^2} =$$

a. $\frac{3 - a}{2}$

b. $\frac{3 - 2a}{2b(1 + b)}$

c. $\frac{3 - a}{b + b^2}$

d. $\frac{1}{4b}$

$$37) \frac{3}{y} - \frac{1}{y - 1} =$$

a. $\frac{2y - 3}{y(y - 1)}$

b. 1

c. -1

d. $\frac{4y - 3}{y(y - 1)}$

$$38) \text{ Solve } \frac{S}{P} = (1 + i)^2 \text{ for } P$$

a. $\frac{S}{(1 + i)^2}$

b. $\frac{(1 + i)^2}{S}$

c. $\frac{S}{1 + i^2}$

d. $(1 + i)^2 - S$

39) If $x + \sqrt{y} = m$, then $y =$

- a. $M^2 - x^2$
- b. $(m + x)^2$
- c. $\sqrt{m - x}$
- d. $(m - x)^2$

40) If $L = \frac{1}{4}xy^2$, then $y =$

- a. $\pm\sqrt{\frac{4L}{x}}$
- b. $\pm\sqrt{4L - x}$
- c. $\pm\sqrt{\frac{L}{x}}$
- d. $\pm\sqrt{\frac{L}{4x}}$

41) $\sqrt{21x^3} \cdot \sqrt{3x} =$

- a. $3x^2\sqrt{7}$
- b. $3x\sqrt{7}$
- c. $7x\sqrt{3}$
- d. $7x^2\sqrt{3}$

42) $\sqrt{45} - 2\sqrt{20} =$

a. $\sqrt{5}$

b. $\sqrt{-35}$

c. $-\sqrt{5}$

d. $\sqrt{35}$

43) $\frac{3}{\sqrt{5}} =$

a. $\frac{3\sqrt{5}}{5}$

b. $\frac{5\sqrt{5}}{5}$

c. $\frac{3\sqrt{3}}{\sqrt{15}}$

d. $\frac{-3\sqrt{5}}{5}$

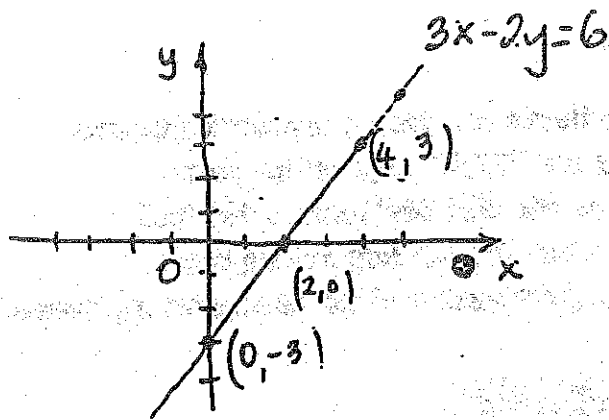
44) Graph $3x - 2y = 6$

45) Graph $y = 3x - 2$

ANSWERS

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|-----|---|-----|---|-----|---|
| 1. | C | 16. | D | 31. | B |
| 2. | B | 17. | C | 32. | B |
| 3. | D | 18. | B | 33. | B |
| 4. | B | 19. | C | 34. | C |
| 5. | C | 20. | C | 35. | D |
| 6. | D | 21. | C | 36. | B |
| 7. | B | 22. | B | 37. | A |
| 8. | A | 23. | C | 38. | A |
| 9. | B | 24. | D | 39. | D |
| 10. | A | 25. | B | 40. | A |
| 11. | A | 26. | D | 41. | A |
| 12. | C | 27. | B | 42. | C |
| 13. | A | 28. | D | 43. | A |
| 14. | A | 29. | C | | |
| 15. | D | 30. | B | | |

44.



45.

