

Linear Equations in One Unknown

Multiple Choice Questions

1. [16-17 Mid-year Exam, #7]

Solve the equation $6(7 - 3b) - 4 = 2$.

- A. -2
- B. 2
- C. $\frac{7}{3}$
- D. 12

2. [16-17 Mid-year Exam, #14]

Solve the equation $\frac{13k}{5} - \frac{k+7}{2} = 28$.

- A. 3
- B. 9
- C. $\frac{35}{3}$
- D. 15

3. [16-17 Mid-year Exam, #15]

There are 88 marbles to be shared among Ashley, Brittany, and Candy. Ashley gets 5 more marbles than Brittany. The number of marbles Candy gets is less than three times of the number of marbles Brittany gets by 2. Find the number of marbles Candy gets.

- A. 12
- B. 17
- C. 49
- D. 51

4. [17-18 S Standardized Test, #1]

Which of the following equations does not have the solution $x = -1$?

- A. $x - 1 = 2x$
- B. $-2x + 1 = -1$
- C. $2x - 3x = 1$
- D. $\frac{x}{2} + 1 = -\frac{x}{2}$

5. [17-18 S Standardized Test, #7]

Solve $0.1[2 + 3(x + 4)] = 0.5$.

- A. -3
- B. $-\frac{5}{3}$
- C. -0.7
- D. 3

6. [17-18 S Standardized Test, #9]

Anna solved the equation $4x - \frac{1-2x}{5} = 5$ as follows:

	$4x - \frac{1-2x}{5} = 5$
1 st line	$20x - 1 - 2x = 25$
2 nd line	$18x - 1 = 25$
3 rd line	$18x = 24$
4 th line	$x = \frac{24}{18}$
5 th line	$x = \frac{4}{3}$

Determine on which line Anna first made a mistake.

- A. 1st line B. 2nd line
 C. 3rd line D. 4th line

7. [17-18 Mid-year Exam, #13]

It is given that Amy has x candies. If Amy has one more than twice the number of candies Chloe has, find the number of candies Chloe has.

- A. $2x+1$
 B. $2(x+1)$
 C. $\frac{x}{2}-1$
 D. $\frac{x-1}{2}$

8. [17-18 Mid-year Exam, #16]

The solution of the equation $\frac{x-7}{2} - 1 = \frac{x+6}{3}$ is

- A. 34.
 B. 36.
 C. 39.
 D. 84.

9. [17-18 Mid-year Exam, #17]

If the sum of three consecutive odd numbers is 123, find the smallest number.

- A. 39
 B. 41
 C. 43
 D. 45

10. [17-18 Final Exam, #2]

Solve $\frac{x+1}{4} = \frac{x-1}{3}$.

- A. -7 B. -1
C. 2 D. 7

11. [18-19 Standardized Test 1, 5]

Which of the following is an algebraic equation in one unknown?

- A. $3a - 1$ B. $2x + 3 = 4$
C. $2xy^2 + 5 = 0$ D. $x + y = 2$

12. [18-19 Standardized Test 1, 6]

4 is **not** the root of

- A. $4y + 5 = 21$. B. $\frac{y}{2} + 3 = 5$.
C. $5y + 6 = 31$. D. $2(y + 3) = 14$.

13. [18-19 Standardized Test 1, 10]

Three prizes that worth \$ 960 are given in a party. The value of the second prize is $\frac{4}{5}$ of the value of the first prize and the value of the third prize is $\frac{3}{4}$ of the value of the second prize. Let \$ n be the value of the first prize, which of the following equations can be used to find the value of n ?

- A. $n + \frac{4n}{5} + \frac{3n}{5} = 960$
B. $n + \frac{4n}{5} + \frac{3n}{4} = 960$
C. $n + \left(1 - \frac{4}{5}\right)n + \left(1 - \frac{3}{5}\right)n = 960$
D. $n + \left(1 - \frac{4}{5}\right)n + \left(1 - \frac{3}{4}\right)n = 960$

14. [18-19 Mid-year Exam, #6]

Find the root of the equation $5(2 - x) + 2(4 - x) = 2x$.

- A. $x = -1$
B. $x = -2$
C. $x = 2$
D. $x = 3$

15. [18-19 Mid-year Exam, #14]

The length of a rectangle is 8 cm longer than the width. If the perimeter of the rectangle is 36 cm, find the area of the rectangle.

- A. 18 cm^2
- B. 27 cm^2
- C. 40 cm^2
- D. 65 cm^2

16. [18-19 Final Exam, #13]

Alice is n years old now and Alice's age is twice that of Dan. 8 years ago, the sum of Alice's age and Dan's age was 20. Find n .

- A. 12
- B. 16
- C. 24
- D. 32

17. [19-20 Standardized test 1, #3]

Solve $15 - 6a = 27$.

- A. $a = -18$
- B. $a = -2$
- C. $a = 2$
- D. $a = 18$

18. [19-20 Standardized test 1, #10]

The difference between double of a and -8 is 22. Find the value(s) of a .

- A. 7
- B. 14
- C. -15 or 7
- D. -15 or 14

19. [19-20 Mid-year exam, #5]

Which of the following is an equation with one unknown?

- A. $-2x + 1$
- B. $A = x^2$
- C. $a - 3 = 2a + 5$
- D. $y + 2x = 3 - 2y$

20. [19-20 Mid-year exam, #6]

Solve $\frac{42}{p+2} = 6$.

- A. 4
- B. 5
- C. 6
- D. 7

21. [19-20 Mid-year exam, #12]

Solve the equation $\frac{x+3}{2} - \frac{x-1}{3} = \frac{10}{3}$.

- A. -13
- B. -9
- C. 9
- D. 13

22. [19-20 Mid-year exam, #17]

What is the general term of the sequence $\frac{1}{3}, \frac{5}{6}, \frac{9}{11}, \frac{13}{18}, \frac{17}{27}, \dots$?

- A. $\frac{4n-3}{3n}$
- B. $\frac{4n-3}{n^2+2}$
- C. $\frac{5-4n}{3n}$
- D. $\frac{5-4n}{n^2+2}$

23. [19-20 Mid-year exam, #18]

Elaine is 20 years older than 3 times as Katherine age now. Four years later, the sum of their ages is 72, find the present age of Elaine.

- A. 11
- B. 12
- C. 53
- D. 56

24. [20-21 Mid-year, #7]

Peter is 5 times as old as his daughter now.

After 7 years, Peter will be 3 times as old as his daughter. What is the present age of Peter.

- A. 7
- B. 14
- C. 35
- D. 42

25. [20-21 Final Exam, #5]

Solve $3(5 + 3x) = -12$.

A. $x = \frac{1}{3}$

B. $x = -\frac{1}{3}$

C. $x = -3$

D. $x = -9$

26. [20-21 Final Exam, #15]

Solve $\frac{2(1-8x)}{5} - \frac{2-3x}{3} = x$.

A. $x = 2$

B. $x = \frac{1}{3}$

C. $x = -\frac{1}{12}$

D. $x = -12$

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