

Algebraic Equations in 1 Unknown

Multiple Choice Questions

1. [11-12 Mid-year, 3]

Solve $2(20 - 7b) = 26b$.

- A. $b = 0$ B. $b = 1$
C. $b = \frac{10}{7}$ D. $b = \frac{10}{3}$

2. [11-12 Mid-year, 4]

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

- A. $x = 3$ B. $x = 7$
C. $x = -3$ D. $x = -7$

3. [11-12 Mid-year, 11]

Solve $3 - 2(2k - 5) = -6(3k - 1)$.

- A. $k = -2$ B. $k = 14$
C. $k = \frac{1}{14}$ D. $k = -\frac{1}{2}$

4. [11-12 Mid-year, 14]

Solve the literal equation $P = \frac{2N - 7}{3} + M$ for N .

- A. $N = \frac{3P - M + 7}{2}$
B. $N = \frac{3P + M - 7}{2}$
C. $N = \frac{3P - 3M + 7}{2}$
D. $N = \frac{3P + 3M - 7}{2}$

5. [11-12 Mid-year, 19]

Six months ago, Karen set a goal to reduce her weight to be less than 50 kg. The followings were the changes in her weight in each month.

-8.6 kg, +5.7 kg, -2.8 kg,

+0.5 kg, +2.2 kg, -5.4 kg.

Finally, she can achieve her goal. Which of the following was her possible weight six months ago?

- A. 58 kg B. 58.5 kg C. 59 kg D. 59.5 kg

6. [11-12 Final, 3]

Solve the equation $\frac{x+2}{4} = \frac{5}{6} - \frac{6-x}{8}$.

- A. 0 B. $\frac{14}{9}$
C. $-\frac{10}{9}$ D. $-\frac{10}{3}$

7. [10-11 Standardized Test 1]

Solve $-3(4a-5) = 9$.

- A. $a = -2$
B. $a = -0.5$
C. $a = 0.5$
D. $a = 2$

8. [12-13 Mid-year 2]

Solve $x - 3(2 - x) = 2$.

- A. -4 B. -1
C. 2 D. 4

9. [12-13 Mid-year 6]

If the sum of 2 consecutive odd numbers is 72. Find the larger number.

- A. 35 B. 36
C. 37 D. 39

10. [12-13 Mid-year 3]

If x is half of y , then

- A. y is $\frac{1}{50}$ of x .
B. y is $\frac{1}{2}$ of x .
C. y is 100% of x .
D. y is 200% of x .

11. [13-14 Standardized Test 1]

Solve $x - 3 = 10x + 3$.

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

12. [13-14 Standardized Test 1]

Solve $4[5x - 6(x - 2)] = 12 - x$.

- A. $x = -12$
- B. $x = -\frac{11}{14}$
- C. $x = -\frac{5}{16}$
- D. $x = 12$

13. [13-14 Mid-year Exam]

Solve $x - 2 = 4(3 - x)$.

- A. $x = -1$
- B. $x = \frac{5}{14}$
- C. $x = 2$
- D. $x = \frac{14}{5}$

14. [13-14 Final Exam]

Which of the following steps in simplifying the expression is/are correct?

$$\begin{aligned} & \frac{x+1}{3} - \frac{x}{4} \\ &= \frac{4x+1}{12} - \frac{3x}{12} \quad (\text{Step I}) \\ &= \underline{x+1} \quad (\text{Step II}) \end{aligned}$$

- A. I only
- B. II only
- C. I and II
- D. None of the above

15. [13-14 Final Exam]

Karen has 15 coins which include \$2 and \$5 coins only. If she has x \$2 coins and the total value of the coins she has is \$39, which of the following equations is wrong?

- A. $75 - 3x = 39$
- B. $5x + 39 - 2x = 3$
- C. $2x = 39 - 5(15 - x)$
- D. $30 + 3(15 - x) = 39$

16. [14-15 Mid-year Exam]

Tom's sister is 3 times as old as Tom. Eight years later, Tom's sister will be twice as old as Tom.

Find the present age of Tom.

- A. 8 B. 12
C. 16 D. 24

17. [14-15 Final Exam #11]

Solve $\frac{1+3y}{7} = -\frac{y-6}{4}$.

- A. $y = 0.5$ B. $y = 1$
C. $y = 2$ D. $y = 3$

18. [15-16 Mid-year Exam #4]

Solve $3 - \frac{y}{5} = 2$.

- A. $y = -25$ B. $y = -5$
C. $y = 5$ D. $y = 7$

19. [15-16 Mid-year Exam #5]

Lily is x years old. Thirty years later her age will be four times her present age.

Find the value of x .

- A. 5 B. 7.5
C. 10 D. 12

20. [15-16 Final Exam, #6]

Solve $2(x - 1) = x \div 2 - 1$.

- A. $x = 0$ B. $x = \frac{2}{3}$
C. $x = 1$ D. $x = 2$

21. [15-16 Final Exam, #11]

Mary's running speed is twice her walking speed, x km/hour. After running for 3 hours and then walking for 4 hours, she has travelled 30 km. Which of the following equations can be used to find the value of x ?

- A. $3(2x) + 4x = 30$
B. $3(4x) + 2x = 30$
C. $\frac{2x}{3} + \frac{x}{4} = 30$
D. $\frac{2x}{4} + \frac{x}{3} = 30$

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