Algebraic Equations in 1 Unknown

Multiple Choice Questions

1.   [13-14 Standardized Test 1]

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

   A. $x = -\dfrac{3}{2}$

   B. $x = -\dfrac{2}{3}$

   C. $x = \dfrac{2}{3}$

   D. $x = \dfrac{3}{2}$

2.   [13-14 Standardized Test 1]

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

   A. $x = -12$

   B. $x = -\dfrac{11}{14}$

   C. $x = -\dfrac{5}{16}$

   D. $x = 12$

3.   [13-14 Mid-year Exam]

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

   A. $x = -1$ **B.** $x = \dfrac{5}{14}$

   C. $x = 2$ **D.** $x = \dfrac{14}{5}$

4.   [13-14 Final Exam]

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

$$\frac{x+1}{3} - \frac{x}{4}$$

$$= \frac{4x+1}{12} - \frac{3x}{12} \qquad \text{(Step I)}$$

$$= \underline{\underline{x+1}} \qquad\qquad \text{(Step II)}$$

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

5.   **[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. $30 + 3(15 - x) = 39$

6.   **[14-15 Mid-year Exam #7]**

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	

7.   **[14-15 Final Exam #11]**

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

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

8.   **[15-16 Mid-year Exam #4]**

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

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

9.   **[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	

10.   **[15-16 Mid-year Exam #13]**

If $\dfrac{a}{2} + \dfrac{a}{3} + \dfrac{a}{4} = 65$, then $a =$

A.   5.

B.   6.

C.   9.

D.   60.

11. **[15-16 Final Exam, #6]**

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

A. $x = 0$ B. $x = \dfrac{2}{3}$

C. $x = 1$ D. $x = 2$

12. **[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. $\dfrac{2x}{3} + \dfrac{x}{4} = 30$

D. $\dfrac{2x}{4} + \dfrac{x}{3} = 30$

13. **[16-17 Mid-year Exam, #6]**

Which of the following is an equation?

A. $(2x)(3x^2)$

B. $5x + 1 > 21$

C. $y + 2x = 1$

D. $(2x - 1) + (x - 2)$

14. **[16-17 Mid-year Exam, #7]**

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

A. -2 B. 2

C. $\dfrac{7}{3}$ D. 12

15. **[16-17 Mid-year Exam, #14]**

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

A. 3 B. 9

C. $\dfrac{35}{3}$ D. 15

16. **[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

17.   [16-17 Final Exam, #11]

John bought n melons for $360. He threw away 5 rotten melons and sold all the remaining melons at the price of $12 each. If he made a profit of $120, find n.

A. 30   B. 35
C. 40   D. 45

18. [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. $\dfrac{x}{2} + 1 = -\dfrac{x}{2}$

19.   [17-18 S Standardized Test, #7]

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

A. –3   B. $-\dfrac{5}{3}$

C. –0.7   D. 3

20.   [17-18 S Standardized Test, #9]

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

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

Determine on which line Anna first made a mistake.

A. 1st line   B. 2nd line

C. 3rd line   D. 4th line

21. [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. $\dfrac{x}{2} - 1$

D. $\dfrac{x-1}{2}$

22. [17-18 Mid-year Exam, #16]

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

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

23. [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

24. [17-18 Mid-year Exam, #2]

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

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

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