ALBERTA MATH 10C · UNIT 6 · 25 QUESTIONS

Systems of Linear Equations — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The two lines shown intersect at a point. The solution to the system formed by the two lines is**

- A (2, 5)
- B (5, 2)
- C (-2, 5)
- D (2, -5)

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2 **The solution to the system x + y = 11 and y = 3x - 5 is**

- A (7, 4)
- B (4, 7)
- C (3, 8)
- D (4, -7)

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3 **The system y = 3x + 2 and y = 3x - 4 has**

A one solution

B no solution

C infinitely many solutions

D two solutions

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4 **The solution to the system 2x + y = 10 and x - y = 2 is**

A (2, 4)

B (-4, 2)

C (4, 2)

D (4, -2)

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5 **Which ordered pair is a solution to both y = x + 3 and 2x + y = 9?**

- A (1, 4)
- B (3, 6)
- C (4, 7)
- D (2, 5)

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6 **When the system y = 2x - 3 and 3x + y = 12 is solved, the value of x is _____**

ANSWER _____

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7 **The solution to the system formed by the two lines shown is**

- **A** (4, 2)
- **B** (2, 4)
- **C** (5, 1)
- **D** (3, 3)

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8 **A theatre sells adult tickets for 12 dollars and child tickets for 8 dollars. One evening, 25 tickets were sold for a total of 248 dollars. The number of adult tickets sold is**

- **A** 13
- **B** 10
- **C** 12
- **D** 15

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9 **Which system of equations has infinitely many solutions?**

- **A** x + y = 5 2x + 2y = 10
- **B** y = 2x + 3 y = 2x - 1
- **C** y = x + 1 y = -x + 1
- **D** 3x + y = 7 3x + y = 9

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10 **When the system 5x - 2y = 4 and 3x + 2y = 12 is solved by elimination, the value of y is ____**

ANSWER _____

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11 The solution to the system $\frac{1}{2}x + y = 5$ and $x - y = 1$ is

- A (3, 4)
- B (5, 2)
- C (2, 5)
- D (4, 3)

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12 A jar contains only dimes and quarters. There are 30 coins in the jar, with a total value of 4.95 dollars. The number of dimes in the jar is

- A 13
- B 15
- C 20
- D 17

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13 **The sum of two numbers is 36 and their difference is 8. The larger number is _____**

ANSWER _____

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14 **The graphs shown give the total cost, in dollars, for two rental companies, where x is the number of days. The two companies charge the same total after**

A 2 days

B 4 days

C 3 days

D 5 days

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15 **If 3x - y = 5 and x + 2y = 11, then the value of x + y is**

A 5

B 6

C 8

D 7

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16 **When the system 4x + 3y = 25 and 2x - 3y = -1 is solved, the value of x is _____**

ANSWER _____

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17 **Cashews cost 18 dollars per kilogram and almonds cost 9 dollars per kilogram. A store mixes cashews and almonds to make 12 kg of a mixture worth 171 dollars in total. The mass of cashews in the mixture, in kilograms, is**

A 5

B 7

C 6

D 8

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18 **The graphs shown give the monthly cost, in dollars, for two phone plans, where x is the number of minutes used. The graphs intersect at a point. This means that**

A Plan A costs 45 dollars more than Plan B when 150 minutes are used

B when 150 minutes are used, both plans cost 45 dollars

C when 45 minutes are used, both plans cost 150 dollars

D Plan B is cheaper than Plan A for every number of minutes

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19 The perimeter of a rectangle is 34 cm. The length is 3 cm more than the width. The length of the rectangle, in centimetres, is _____

ANSWER _____

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20 The solution to the system $\frac{x}{2} + \frac{y}{3} = 4$ and $x - y = 3$ is

A (6, 3)

B (3, 6)

C (6, -3)

D (4, 3)

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21 **The system 4x + 2y = 6 and 2x + y = 3 has**

A no solution

B exactly one solution

C infinitely many solutions

D exactly two solutions

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22 **Twice a number plus a second number is 19. The first number plus twice the second number is 17. The first number is ____**

ANSWER _____

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23 **A school sells 350 tickets to a play. Adult tickets cost 10 dollars and student tickets cost 6 dollars. Total ticket sales are 2620 dollars. The number of adult tickets sold is**

A 120

B 220

C 150

D 130

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24 **When the system 3x + 4y = 25 and 2x - y = 2 is solved, the value of y is _____**

ANSWER _____

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25 **The sum of the digits of a two-digit number is 11. The tens digit is 3 more than the units digit. The two-digit number is**

A 47

B 38

C 74

D 83

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ANSWER KEY

1. A
2. B
3. B
4. C
5. D
6. 3
7. A
8. C
9. A
10. 3
11. D
12. D
13. 22
14. C
15. D
16. 4
17. B
18. B
19. 10
20. A
21. C
22. 7
23. D
24. 4
25. C

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