ALBERTA MATH 20-2 · UNIT 2 · 25 QUESTIONS

Proportional Reasoning — 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 **A car travels 288 km in 4 h. The unit rate of the car is**

- A 72 km/h
- B 1152 km/h
- C 36 km/h
- D 0.014 km/h

Understand It with Pulse | Flag a mistake

2 **On a map with a scale of 1 cm : 5 km, the distance between two towns is 7 cm. The actual distance between the towns is**

- A 1.4 km
- B 35 km
- C 12 km
- D 70 km

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3 **A rectangle with a width of 6 cm and a length of 9 cm is similar to a larger rectangle with a width of 10 cm. The length of the larger rectangle is**

- A 12 cm
- B 13.5 cm
- C 15 cm
- D 19 cm

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4 **The graph shows the amount of flour needed for different numbers of servings of a recipe. The amount of flour needed to make 10 servings is**

- A 1.2 cups
- B 6 cups
- C 12 cups
- D 7.5 cups

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5 **A 3 kg bag of apples costs $7.50. The unit price of the apples, in dollars per kilogram, to the nearest cent, is _____**

ANSWER _____

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6 **The price of a book increases from $40 to $46. The percent increase in the price is**

A 15%

B 13%

C 6%

D 46%

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7 **A photograph that is 10 cm wide is enlarged to a width of 25 cm. The scale factor of the enlargement is**

- A 0.4
- B 2.5
- C 1.5
- D 15

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8 **The exchange rate is 1 CAD = 0.73 USD. The value of $250 CAD, in US dollars, is**

- A $342.47
- B $177.00
- C $182.50
- D $250.73

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9 **A map has a scale of 1 : 50000. Two locations that are actually 7.5 km apart are separated on the map, in centimetres, by _____**

ANSWER _____

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10 **A person who is 1.8 m tall casts a shadow that is 2.4 m long. At the same time, a tree casts a shadow that is 12 m long. The height of the tree is**

A 16 m

B 6.4 m

C 14.4 m

D 9 m

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11 **A jacket is reduced in price from $85 to $68. The percent decrease in the price is**

A 20%

B 25%

C 17%

D 80%

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12 **A train travels 45 km in 30 minutes at a constant speed. The time, in minutes, that the train takes to travel 120 km is _____**

ANSWER _____

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13 On a blueprint with a scale of 1 : 25, a room measures 16 cm. The actual length of the room is

- **A** 0.64 m
- **B** 4 m
- **C** 6.25 m
- **D** 400 m

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14 The graph shows a proportional relationship between x and y. Which equation represents it?

- **A** $y = 3x + 1$
- **B** $y = \frac{12}{x}$
- **C** $y = 3x$
- **D** $y = x^2$

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15 **A model car is built to a scale of 1 : 18. If the actual car is 4.5 m long, the length of the model, in centimetres, is _____**

ANSWER _____

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16 **The population of a town increases by 20% in one year and then decreases by 20% the next year. The overall percent change in the population is**

A no change

B a 4% increase

C a 40% decrease

D a 4% decrease

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17 **Four sizes of the same juice are sold at a grocery store. The size that gives the best value for the money is**

A 500 mL for $1.60

B 750 mL for $2.25

C 1 L for $2.80

D 2 L for $5.90

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18 **After a discount of 15%, a bicycle costs $340. The original price of the bicycle, in dollars, was _____**

ANSWER _____

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19 **Two similar polygons have a scale factor of 4 : 3 (larger to smaller). If the perimeter of the smaller polygon is 36 cm, the perimeter of the larger polygon is**

- **A** 48 cm
- **B** 27 cm
- **C** 45 cm
- **D** 144 cm

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20 **A scale drawing of a garden uses a scale of 2 cm : 3 m. If the width of the garden on the drawing is 9 cm, the actual width of the garden is**

- **A** 6 m
- **B** 13.5 m
- **C** 27 m
- **D** 15 m

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21 **The exchange rate is 1 USD = 1.36 CAD. The cost, in Canadian dollars, to the nearest cent, of an item priced at $92 USD is _____**

ANSWER _____

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22 **A painter uses 3 L of paint to cover 24 m². The amount of paint needed to cover 60 m² at the same rate is**

A 5 L

B 12 L

C 7.5 L

D 4.8 L

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23 **Triangle ABC is similar to triangle DEF, with AB = 8 cm, DE = 20 cm, and BC = 12 cm. The length of EF is**

- A 4.8 cm
- B 16 cm
- C 24 cm
- D 30 cm

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24 **The price of a phone is $250. Its price is increased by 12%, and then a tax of 5% is applied to the new price. The final price, in dollars, to the nearest dollar, is _____**

ANSWER _____

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25 **A model of a building is made with a scale of 1 : 50. The model is 84 cm tall, and the actual building has 28 floors. The average height of one floor of the building is**

- **A** 1.5 m
- **B** 3 m
- **C** 0.6 m
- **D** 2.1 m

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ANSWER KEY

1. A
2. B
3. C
4. D
5. 2.50
6. A
7. B
8. C
9. 15
10. D
11. A
12. 80
13. B
14. C
15. 25
16. D
17. C
18. 400
19. A
20. B
21. 125.12
22. C
23. D
24. 294
25. A

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