



The Learning Centre

Business Math Proficiency Practice Test

This practice test contains 24 questions. The actual test contains 25 questions.
The use of a calculator is permitted.

Topics for this test include: factoring and expanding, linear equations, ratios and proportions, percentages, graphs of lines, word problems, exponents, systems of equations, arithmetic mean.

1. Simplify: $6x - 2(x - 2y) + 2y$

- A. $2(2x + 3y)$ B. $4(x - y)$ C. $4x$ D. $4(x + y)$ E. $2(2x - 3y)$

2. If $\frac{8}{5} = \frac{4}{x}$, then $x =$

- A. $\frac{4}{10}$ B. 2 C. $\frac{10}{4}$ D. $\frac{1}{2}$ E. 32

3. At what point does the graph of $y = 4x - 7$ cross the x -axis?

- A. 4 B. -7 C. $\frac{7}{4}$ D. $\frac{7}{4}$ E. 0

4. The volume of water V (in litres) in a leaky bucket is given by $V = \frac{4}{5}t + 10$, where t is the length of time (in minutes) from when it was filled. After how many minutes is there only 8 L of water left in the bucket?

- A. 20 B. $\frac{18}{5}$ C. 15 D. 5A. 20 B.

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9. A student has 42 coins worth a total of \$5.90. Each coin is either a nickel (five cents) or a quarter (twenty-five cents). If x is the number of nickels, then an equation that would allow you to determine x would be:

A. $0.05x + 0.25(42 - x) = 5.90$

B. $0.05 + 0.25(42 - x) = 5.90$

C. $0.05x + 10.50 = 5.90$

D. $42x = 5.90$

E. $\frac{x}{0.05} + \frac{42 - x}{0.25} = 5.90$

10. Simplify $3x^2y \cdot 2x^3y^4 \cdot 2$

A. $36x^{10}y^6$

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16. Solve the following equation: $2(3x - 4) + 7 = 3(2 - x)$
 A. 2 B. $\frac{7}{9}$ C. $\frac{3}{7}$ D. $\frac{7}{6}$ E. $\frac{7}{3}$
17. Evaluate $\frac{S}{(1 + i)^n}$ for $S = \$2000$, $i = 0.005$, and $n = 6$ to the nearest penny.
 A. \$331.67 B. \$1941.04 C. \$1941.75 D. \$2060.76 E. none of the above
18. An investment earns a periodic rate of interest, i , of 1.5% each month. Starting with a present value, P of \$3000, what will the future value, F , of your investment be in two years? The formula is $F = P(1 + i)^n$, where n is the number of months for the investment.
 A. \$18750.00 B. \$3090.68 C. \$3967.50 D. \$4288.51 E. none of the above
19. Determine the average (arithmetic mean) of \$160, \$182, \$174, and \$202.
 A. \$718 B. \$179.50 C. \$359 D. \$186 E. none of the above
20. To manufacture widgets, it costs \$42.00 to set up a machine, plus \$1.75 per widget for material. Find an expression for the total cost of producing x widgets.
 A. $(\$42.00 + \$1.75) x$
 B. $\$42.00x + \1.75
 C. $(\$42.00 - \$1.75) x$
 D. $\$42.00 - \$1.75x$
 E. $\$42.00 + \$1.75x$
21. Evaluate: $2 \frac{1}{10^1} + 3 \frac{1}{10^2} + 4 \frac{1}{10^3}$
 A. 0.226 B. 0.234 C. 0.236 D. 0.217 E. 0.483
22. Evaluate: $\frac{P \sqrt{4 \cdot 2^2 + 6 \cdot 3^2}}{0.544 + 3.22}$
 A. 2.79 B. 22.52 C. 17.14 D. 19.00 E. 2.01
23. Solve the following equation for x : $400 = 150(2 + 6x)$
 A. $\frac{124}{3}$ B. $\frac{1}{9}$ C. $\frac{1}{3}$ D. $\frac{50}{3}$ E. $\frac{26}{9}$
24. In Bucks County, the property tax 68(to)-tion for

Answers:

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