

Business Math Chapter 2 Answer Key by Michael Reimer ①

1) $(3d - 4e) + (-2d + 6e)$

$$\begin{array}{r} 3d - 4e - 2d + 6e \\ 3d - 2d - 4e + 6e \\ \hline d + 2e \end{array}$$

2) $(3ab) + (-6ab) - (-5ab)$

$$\begin{array}{r} 3ab - 6ab + 5ab \\ \hline 2ab \end{array}$$

3) $4(5a + 2b) - (3a - 4b)$

$$\begin{array}{r} 20a + 8b - 3a + 4b \\ 20a - 3a + 8b + 4b \\ \hline 17a + 12b \end{array}$$

4) $3[2 - 5x(2 + 6y)]$

$$\begin{array}{r} 3[2 - 10x - 30xy] \\ 6 - 30x - 90xy \end{array}$$

5) $\frac{4x + 12}{5} - 3.2(2x - 2)$

$$\frac{4x + 12}{5} - 6.4x + 6.4$$

$$\frac{4x}{5} + \frac{12}{5} - 6.4x + 6.4$$

$$0.8x + 2.4 - 6.4x + 6.4$$

$$\begin{array}{r} 0.8x - 6.4x + 2.4 + 6.4 \\ \hline -5.6x + 8.8 \end{array}$$

6) $(3c - 8d)(2c + 4d)$

$$(3c)(2c) + (3c)(4d) + (-8d)(2c) + (-8d)(4d)$$

$$\begin{array}{r} 6c^2 + 12cd - 16cd - 32d^2 \\ \hline 6c^2 - 4cd - 32d^2 \end{array}$$

7) $c = 3 \quad d = 2 \quad 4c + 3d - 8$

$$4(3) + 3(2) - 8$$

$$12 + 6 - 8$$

$$\hline 10$$

8) $S = \$1250 \quad r = 0.08 \quad t = \frac{3}{12} \quad S = (1 + rt)$

$$\$1250 \div (1 + 0.08 \times \frac{3}{12})$$

$$\$1250 \div (1 + 0.08 \times 0.25)$$

$$\$1250 \div (1.02)$$

$$\$1250 \div 1.02$$

$$\$1225.49$$

$$\hline$$

9) $4^3 \times 9^4$

$$\begin{array}{r} 36^3 \times 4 \\ 36^3 \times 4 \\ \hline \end{array}$$

10) $8h^9 \div 2h^3$

$$\begin{array}{r} 4h^{9-3} \\ 4h^6 \end{array}$$

11) $(r^4)^3$

$$\begin{array}{r} r^{4 \times 3} \\ r^{12} \end{array}$$

12) 8^3

$$\begin{array}{r} 8 \times 8 \times 8 \\ \hline 512 \end{array}$$

13) $4^{\frac{2}{3}}$

$$2 \div 3 = 0.6666666666667 \text{ to } 1$$

$$4 \boxed{y^x} \boxed{RCL} \boxed{1} = \underline{\underline{2.5198421}}$$

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$$14) 5x + 4 = 22 + 2x$$

$$5x - 2x = 22 - 4$$

$$\frac{3x}{3} = \frac{18}{3}$$

$$\underline{x = 6}$$

$$15) 15x - 3x = 120$$

$$15x - 3x = 120$$

$$\frac{12x}{12} = \frac{120}{12}$$

$$\underline{x = 10}$$

$$16) 1x + 9\%x = 45.68$$

$$1x + 0.09x = 45.68$$

$$\frac{1.09x}{1.09} = \frac{45.68}{1.09}$$

$$\underline{x = 41.91}$$

$$17) \$88 = x - 12\%x$$

$$\$88 = 1x - 0.12x$$

$$\frac{\$88}{0.88} = \frac{0.88x}{0.88}$$

$$\underline{x = \$100}$$

$$18) x = \$250 - 2.5\%(250)$$

$$x = \$250 - 6.25$$

$$\underline{x = \$243.75}$$

$$19) a) \frac{2150 - 2650}{2650} \times 100 = \underline{-18.86792453\%}$$

$$b) \frac{\$39 - \$35}{\$35} \times 100 = \underline{11.42857143\%}$$

$$c) 2^{nd} \text{ Year} = 2150 \times \$39 = \$83,850$$

$$1^{st} \text{ Year} = 2650 \times \$35 = \$92,750$$

$$\frac{\$83,850 - \$92,750}{\$92,750} \times 100 = \underline{-9.595687332\%}$$

$$20) \$1.25 = x + 35\%x$$

$$\$1.25 = 1x + 0.35x$$

$$\frac{\$1.25}{1.35} = \frac{1.35x}{1.35}$$

$$\underline{x = 0.93}$$

$$\text{Increase} = \$1.25 - \$0.93 = \underline{\underline{\$0.32}}$$