

PRACTICE QUIZ 1

1. Solve the equation for the unknown.

$$4x + 3 = 8$$

A. -2

B. $\frac{-5}{4}$

C. $\frac{5}{4}$

D. 2

2. Solve the equation by any method.

$$3x^2 - 5 = 22$$

A. 0

B. ± 1

C. ± 2

D. ± 3

3. Solve the inequality for the unknown.

$$3x + 5 - 2(x + 3) > 4(1 - x) + 5$$

A. $x > 2$

B. $x > 9$

C. $x > 10$

D. $x > 17$

4. A diver was at 125 feet below sea level. The diver dove down another 350 feet. Where was the diver located?

- A. 475 feet below sea level
- B. 225 feet below sea level
- C. 225 feet above sea level
- D. 475 feet above sea level

5. A man's apartment building charges him \$60 a month for his dog. The following year, he pays the building a total of \$960 because he has two dogs. How much more money a month does having a second dog cost?

- A. \$20
- B. \$24
- C. \$22
- D. \$26

6. A customer receives a cell phone charge for an international phone call that cost \$49. The customer doesn't remember how long the call was but he sees that the service charged him \$2.45 per minute. Based upon his notice, how long was the phone call?

- A. 25 minutes
- B. 15 minutes
- C. 20 minutes
- D. 10 minutes

7. $x^2 \cdot x^4 =$

- A. x^8
- B. x^2
- C. x^6
- D. x^{16}

8. Solve $x^3 = 343$.

A. 6

B. 7

C. 8

D. 9

9. $\sqrt{25} \times \sqrt{16} =$

A. 9

B. 20

C. 3

D. 18

10. One online seller has about 6×10^8 online orders, and another online seller has about 5×10^7 online orders. How many times more orders does the first company have?

A. 12

B. 15

C. 20

D. 32

PRACTICE QUIZ 1 – ANSWER KEY

1. C. The correct solution is $\frac{5}{4}$.

$$4x = 5$$

Subtract 3 from both sides of the equation.

$$x = \frac{5}{4}$$

Divide both sides of the equation by 4.

See Lesson: Equations with One Variable.

2. D. The correct solutions are ± 3 . Solve this equation by taking the square root.

$$3x^2 = 27$$

Add 5 to both sides of the equation.

$$x^2 = \pm 9$$

Divide both sides of the equation by 3.

$$x = \pm 3$$

Apply the square root to both sides of the equation.

See Lesson: Equations with One Variable.

3. A. The correct solution is $x > 2$.

$$3x + 5 - 2x - 6 > 4 - 4x + 5$$
 Apply the distributive property.

$$x - 1 > -4x + 9$$

Combine like terms on both sides of the inequality.

$$5x - 1 > 9$$

Add $4x$ to both sides of the inequality.

$$5x > 10$$

Add 1 to both sides of the inequality.

$$x > 2$$

Divide both sides of the inequality by 5.

See Lesson: Equations with One Variable.

4. A. The correct solution is 475 feet below sea level because $-125 - 350 = -475$ feet. See Lesson: Solving Real-World Mathematical Problems.

5. A. It costs the man \$720 a year to have one dog because $\$60 \times 12 = \720 . The difference between the dog costs is \$240 because $\$960 - \$720 = \$240$ and dividing the

difference by 12 shows that it costs \$20 a month extra for his second dog. See

Lesson: Solving Real-World Mathematical Problems.

6. C. The phone call was 20 minutes because $\$49 \div \$2.45 \text{ per minute} = 20$ minutes. See Lesson: Solving Real-World Mathematical Problems.

7. C. The correct solution is x^6 because following the rules of exponents, when exponents are multiplied together, they can be added. See Lesson: Powers, Exponents, Roots, and Radicals.

8. B. The correct solution is 7 because the cube root of 343 is 7. See Lesson: Powers, Exponents, Roots, and Radicals.

9. B. The correct solution is 20 because $\sqrt{25} = 5$ and $\sqrt{16} = 4$. The overall equation simplifies to $5 \times 4 = 20$. See Lesson: Powers, Exponents, Roots, and Radicals.

10. A. The correct solution is 12 because the first company has about 600,000,000 orders and the second company has about 50,000,000 orders. So, the first company is about 12 times larger. See Lesson: Powers, Exponents, Roots, and Radicals.

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