Comprehensive Test 7.1 G

Absolute Value

1. **Which of the following is a number less than 0?**
   a. $|0|$
   b. $-|-1|$
   c. $|20|$
   d. $|11|$

2. **Solve $|10-15|$**
   a. 25
   b. 5
   c. -5
   d. -25

Representing Integers

3. **Which of these situations can be modeled with additive inverses? Select the two correct answers.**
   a. E.J. walks 1 mile to the store. Then he walks 1 mile further to his friend's house.
   b. A bird is flying 8 feet above the surface of the lake. Then it dives 10 feet to catch a fish.
   c. Sofia earns $15 babysitting. Then she pays $15 for a new T-shirt.
   d. A commuter train travels 3 miles north from the center of town. Then it travels 3 miles west.
   e. Malik takes the elevator up 5 floors to his office. At the end of the day, he takes the elevator down 5 floors to go home.

4. **Which situation would you describe with a negative integer?**
   a. A price increase of $5
   b. A 10-yard gain in football
   c. A fall of 25 feet
   d. A helicopter at 200 feet above a landing pad

Computation of Integers

5. **Evaluate $-3 - 11 =$**
   a. -14
   b. 8
   c. -8
   d. 14

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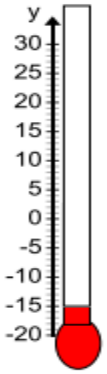
6. **At the start of the month, the value of an investment was $48.45. By the end of the month, the value of the investment changed by a loss of $13.80. What is the value, in dollars, of the investment at the end of the month?**
   a. 62.25
   b. -34.65
   c. -13.80
   d. 34.65

7. **Evaluate -15 + 6 =**
   a. 9
   b. 21
   c. -21
   d. -9

8. **A submarine is 58 feet below sea level. An airplane is 264 feet above sea level/ How far above the submarine is the airplane?**
   a. 216 feet
   b. 322feet
   c. 312 feet
   d. 316 feet

9. **The thermometer shows the temperature at the North Pole when Chris woke up this morning. The temperature rose 20 degrees by noon. What was the temperature at noon?**
   a. 0^0
   b. -5
   c. 35
   d. 5



<u>Computation of Decimals</u>

10. **Mr. Palmer had $5,675.68 in his savings account. He then deposited $2,168.79 more into his account. How much is in his savings account now?**
    a. $7,844.47
    b. $7,843.37
    c. $7,734.47
    d. $7,733.37

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11. Barb had $10 in her bank account. She used her debit card to pay $41 for dinner. What is the new balance of her bank account after the $41.00 is deducted?

a. -51
b. -31
c. 31
d. 51

12. Mr. Reilly brought the following three items at a music store. How much change did he receive from $50.00?

a. $6.92
b. $7.08
c. $16.90
d. $43.08

CD $18.10
CD Case $15.00
Headphones $9.98

Computation of Fractions

13. Find the sum $\frac{3}{8} + \frac{5}{6}$ =

a. $\frac{8}{14}$
b. $\frac{15}{48}$
c. $1\frac{5}{24}$
d. $2\frac{9}{24}$

14. Find the difference $\frac{5}{6} - \frac{1}{2}$ =

a. $\frac{1}{3}$
b. $\frac{1}{2}$
c. $\frac{2}{3}$
d. $\frac{5}{6}$

Rules of Exponents

15. Simplify $(15^5)^{10}$.

a. 15^{-5}
b. 15^{15}
c. 15^{50}
d. 75^{10}

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16. **Which expression equal $(3xy^2z^3)^2$?**

a. $9x^2y^4z^6$
b. $6x^2y^4z^6$
c. $6x^2y^4z^6$
d. $9x^3y^4z^5$

17. Write $(b)(b)(b)(b)(b)$ in exponential form.

a. 5^b
b. b^5
c. b^{-5}
d. b^6

18. Which expressions are equivalent to $\frac{3^{-8}}{3^{-4}}$? Select all that apply.

a. 3^{-12}
b. 3^{-4}
c. 3^2
d. $\frac{1}{3^2}$
e. $\frac{1}{3^4}$

19. Find an expression equivalent to the one shown below. $(3^2)^4 \div 3^{17}$

a. $\frac{1}{3^9}$
b. 3^9
c. $\frac{1}{3^{11}}$
d. 3^{25}

Evaluating Perfect Squares and Cubes

20. What is the value of $\sqrt[3]{27}$?

a. 3
b. 5
c. 9
d. 13.5

21. Solve for y. $y^2 = 225$

a. y = 14
b. y = 16
c. y = 13
d. y = 15

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22. Which statement below is true? Select all that apply.

a. $\sqrt{1} = \sqrt[3]{1}$
b. $\sqrt{2} = \sqrt[3]{3}$
c. $\sqrt{4} = \sqrt[3]{8}$
d. $\sqrt{4} = \sqrt[3]{9}$

Rational VS Irrational

23. Which number below is *NOT* an irrational number?

a. $\sqrt{46}$
b. $\sqrt{47}$
c. $\sqrt{48}$
d. $\sqrt{49}$

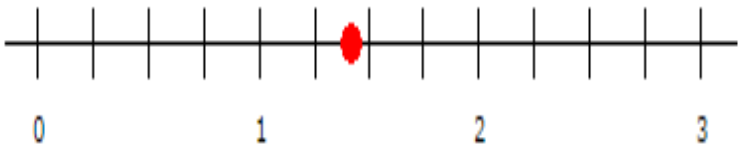
Approximating Irrational Roots

24. Between which two consecutive integers is $\sqrt[3]{200}$?

a. 66 and 67
b. 20 and 21
c. 6 and 7
d. 5 and 6

25. At what position on the number line is the black dot located?

a. $\sqrt{4}$
b. $\sqrt{2}$
c. $\sqrt{6}$
d. $\sqrt{5}$



<u>Bonus +3 each- Complete on the back of the ZIPGRADE</u>

1. **Simplify each radicand by factoring out the perfect square. $\sqrt{45}$.**

2. **Simplify each radicand by factoring out the perfect square. $\sqrt{200}$.**