COMPUTATION AND ELEMENTARY ALGEBRA PRETEST

1. Which of the following is equal to $-2(x-5)$?

   A. $-2x+7$
   B. $-2x-5$
   C. $-2x+10$
   D. $-2x-10$

2. 16 is what percent of 80?

   A. 12.8%
   B. 5%
   C. 23%
   D. 20%

3. Which of the following is the smallest number?   7, 0, -10, -3

   A. -3
   B. 0
   C. -10
   D. 7
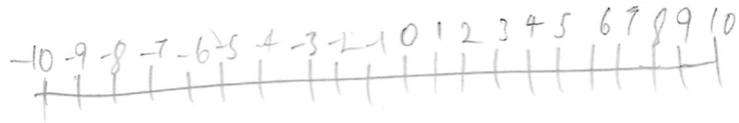
4. If $x=-3$ then $4x^2-3x-10=$

   A. 35.
   B. 143.
   C. 17.
   D. -55.

5. What is 576 divided by 47? (Round the answer to three decimal places.)

   A. 12.463
   B. 13.642
   C. 11.953
   D. 12.255

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6. If $a = 4$ and $b = -3$ then $\dfrac{ab - 4}{2b^2} =$

    A. $\dfrac{-4}{9}$.

    B. $\dfrac{4}{9}$.

    C. $\dfrac{8}{9}$.

    D. $\dfrac{-8}{9}$.

7. $8\sqrt{5} + 3\sqrt{5} - \sqrt{5} =$

    A. 11.

    B. $10\sqrt{5}$.

    C. $11\sqrt{5}$.

    D. $11\sqrt{10} - \sqrt{5}$.

8. Combine into a single expression: $\dfrac{3}{x} + \dfrac{4}{y}$.

    A. $\dfrac{12}{xy}$

    B. $\dfrac{7}{x + y}$

    C. $\dfrac{3y + 4x}{xy}$

    D. $\dfrac{3y + 4x}{x + y}$

9. After dining at a restaurant John received a bill for $42.38. He wanted to leave a 20% tip for the waiter. What should he have paid?

    A. $ 8.48

    B. $50.86

    C. $51.67

    D. $49.34

10. Which property of real numbers is demonstrated by the following statement?

$$3+(2+5)=(2+5)+3$$

   A. The associative property of addition
   B. The commutative property of addition
   C. The distributive property
   D. The identity property of addition

11. Write 12% as a fraction in lowest terms.

   A. $\dfrac{6}{50}$

   B. $\dfrac{1}{8}$

   C. $\dfrac{1}{5}$

   D. $\dfrac{3}{25}$

$12\% = \dfrac{12}{100} = \dfrac{6}{50} = \dfrac{3}{25}$

12. Which of the following is true of the two numbers $-\dfrac{1}{5}$ and .20?

   A. They are equal.
   B. The first is larger than the second.
   C. Their sum is 0.
   D. Their product is 1.

13. Which of the following is a factor of $x^3 + x^2 - 6x$?
   A. $x-1$
   B. $x-6$
   C. $x+3$
   D. $x+2$

14. Which is the scientific notation for 3,140,000?
   A. 3.14×10^6
   B. 3.14×10^{-6}
   C. $.314 \times 10^7$
   D. 3.14×10^{-6}

$3,140,000$

15. The perimeter of a triangle is the sum of its sides. What is the perimeter of a triangle having sides of length $4\frac{1}{2}$ inches, $7\frac{3}{8}$ inches and $3\frac{1}{5}$ inches?

    A. 14.502 inches
    B. 15.075 inches
    C. 16.341 inches
    D. 15.224 inches

16. Which of the following is point on the graph of $y = 4x - 1$?

    A. $(-2,-7)$
    B. $(-1,-5)$
    C. $(3,13)$
    D. $(2,9)$

I'ma be honest, I'm lost here

17. Which of the following is equal to $\left(x^2 - 2xy + y^2\right) - \left(2x^2 - 3xy + y^2\right)$?

    A. $-x^2 + xy$
    B. $3x^2 - 5xy + 2y^2$
    C. $-x^2 - 5xy$
    D. $-x^2 - 5xy + 2y^2$

18. Carrie has n nickels and d dimes. Which of the following represents the total amount of her money in cents?

    A. $5n + 10d$
    B. $15(n + d)$
    C. $15nd$
    D. $n + d$

19. Which of the following is the difference of two squares?

    A. $(2a - b) - (2a + b)$
    B. $(25x - 16y)$
    C. $4a^2 + b^2$
    D. $4m^2 - n^2$

20. Factor: $3xy + 6x^2$.

   A. $3x(y + 2x^2)$

   B. $3x(y + 2x)$

   C. $3xy(1 + 6x^2)$

   D. $3x(y + x)$

Handwritten work: $3x(y + 2x^2)$ $3x$ $3xx + (2x)$ $3x + 6x^2$

21. 75 is approximately what percent of 70?

   A. 79

   B. 1.07

   C. 107

   D. 93

22. Multiply: $(3x + 2y)^2$.

   A. $9x + 4y$

   B. $25x^2 y^2$

   C. $9x^2 + 6xy + 4y^2$

   D. $9x^2 + 12xy + 4y^2$

23. Multiply: $(5a + 4)(7a - 4)$.

   A. $12a$

   B. $35a^2 - 16$

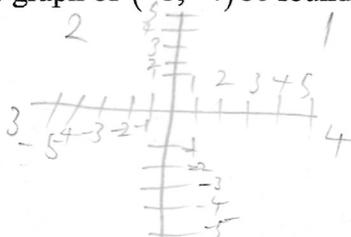   C. $35a^2 + 8a - 16$

   D. $35a^2 - 48a - 16$

Handwritten work: $5a(7a - 4) + 4(7a - 4$ $35a^2 - 20a + 28a - 16$ $35a^2 + 8a - 16$

24. In which quadrant would the graph of $(-5, -4)$ be found?

   A. Quadrant I

   B. Quadrant II

   C. Quadrant III

   D. Quadrant IV

25. Find a number that when added to -7 will yield 17.

   A. 10

   B. 24

   C. -10

   D. None of these.

26. Which of the following is the x-intercept of the graph of $y = 8 - 2x$?

    A. $(0, -4)$

    B. $(4, 0)$

    C. $(0, -8)$

    D. $(8, 0)$

still lost

27. Simplify: $\dfrac{15}{16} \div \dfrac{7}{4}$.

    A. $\dfrac{15}{28}$

    B. $\dfrac{105}{64}$

    C. $\dfrac{43}{16}$

    D. $\dfrac{22}{16}$

$$\frac{15}{16} \div \frac{7}{4} = \frac{4}{7}$$

$$\frac{15}{16} \times \frac{4}{7} = \frac{60}{112} = \frac{30}{66} = \frac{15}{33}?$$

28. Simplify: $x^5 \cdot x^{-1} \cdot x^0$.

    A. 1

    B. x^{-5}

    C. x^4

    D. x^6

$$x^5 \cdot x^{-1} \cdot x^0$$
$$x^{-5} \cdot x^0 = x^0 = x = 1$$

29. Which of the following is greatest?

    A. $\dfrac{2}{3}$

    B. $\dfrac{5}{12}$

    C. $\dfrac{1}{2}$

    D. $\dfrac{3}{8}$

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30. Bill purchased a car and made a down payment of $560. If the down payment was 1/5 of the purchase price, what was the purchase price?

    A. $112
    B. $2,240
    C. $2,800
    D. $4,480

31. Of the following, which is closest to $\sqrt{4,000}$?

    A. 40
    B. 60
    C. 200
    D. 2,000

32. If $x = 4$ and $y = -2$, then $x^2 y - xy^2 =$

    A. 48.
    B. 16.
    C. −16.
    D. −48.

33. If $2x + 3(x - 2) = 30$, then $x =$

    A. $\dfrac{5}{36}$.

    B. $\dfrac{24}{5}$.

    C. $\dfrac{32}{5}$.

    D. $\dfrac{36}{5}$.

34. $\dfrac{5}{a} + \dfrac{7}{b} =$

   A. $\dfrac{12}{a+b}$.

   B. $\dfrac{12}{ab}$.

   C. $\dfrac{5b+7a}{a+b}$.

   D. $\dfrac{5b+7a}{ab}$.

35. $23.5 \times 3.04 =$

   A. 714.4.

   B. 79.9.

   C. 71.44.

   D. 7.99.

36. $\dfrac{3}{4} - \dfrac{1}{2} + \dfrac{2}{5} =$

   A. $\dfrac{3}{20}$.

   B. $\dfrac{4}{11}$.

   C. $\dfrac{4}{7}$.

   D. $\dfrac{13}{20}$.

37. One factor of $3a^2 - 13a - 10$ is

   A. $(3a+2)$

   B. $(3a-5)$

   C. $(a+2)$

   D. $(a+5)$

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38. If A represents the number of apples purchased at 15 cents each and B represents the number of bananas purchased at 10 cents each, which of the following represents the total purchase price in cents?

    A. $25AB$

    B. $25(A+B)$

    C. $15A+10B$

    D. $A+B$

39. Simplify: $\dfrac{3\left[7-2(5+4)\right]}{8-6\div2}$.

    A. $\dfrac{-33}{5}$

    B. 135

    C. 27

    D. $\dfrac{15}{7}$

40. $\sqrt{18}+\sqrt{8}=$

    A. $\sqrt{26}$.

    B. $5\sqrt{2}$.

    C. 10.

    D. 12.