Name _____

Score _____

Cumulative Test 5A

Math Course 3

*Also take **Power-Up Test 5***

1. (7) The number of students in four classrooms is 28, 30, 31, and 31. What is the mean number of students in the four classrooms?

2. (3, 24) Simon ran and jumped three times. The lengths of his jumps are shown below.

4.23 m, 4.27 m, 3.98 m

His longest jump was how much longer than his shortest jump?

3. (5, 10) There are 12 girls and 15 boys in a classroom. What fraction of the students are girls?

4. (7) Norton started driving at 9 a.m. By noon he had traveled 162 miles. What was his average speed?

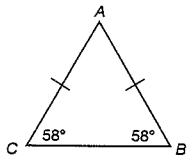
5. (21) Expand: $3(x + 4)$

6. (15, 21) Compare: $\sqrt{25} - \sqrt{16} \bigcirc \sqrt{25 - 16}$

7. (10, 12) Arrange these numbers from least to greatest.

$1.4, 0, 0.14, \frac{1}{4}, 1, \frac{-1}{4}$

Refer to triangle ABC to answer questions 8 and 9.

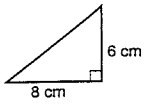


8. (20) What is the measure of angle A?

9. (20) Classified by sides, what type of triangle is triangle ABC?

10. (Inv. 1, 20) What is the area of a triangle with vertices at (0, 0), (0, 3), and (3, 4)?

11. (20, Inv. 2) Find the perimeter of this triangle.



12. (21) Follow the order of operations to simplify the following expression.

$20 - [10 - 5(3 - 1)]$

13. (15) Express in exponential form:

$$\frac{x \cdot x \cdot y \cdot y \cdot y}{z \cdot z \cdot z \cdot z}$$

14. (14) Find $\frac{1}{2}bh$ when $b = 12$ and $h = 8$.

For questions 15 and 16, solve for x by inspection.

15. (14) $50 = 2x + 10$

16. (13, 14) $1 - x = \frac{2}{5}$

For questions 17–20, simplify the expression.

17. (22) $\frac{3}{4} \cdot \frac{8}{9}$

18. (22) $\frac{3}{5} \div \frac{3}{4}$

19. (24, 25) $\frac{2.4 - 0.24}{2}$

20. (15, 25) $(0.12)^2$

NAME: Pre-Alg. Study Guide 5 TEST: 5

SCORE:

1. $28 + 30 + 30 + 31 = 120$

$120 \div 4 =$ 30 students

2. $4.17 - 3.98 = .29$ .29m

3. 12 girls + 15 boys = 27 total

$\frac{12}{27} \div 3 = \frac{4}{9}$

4. 9AM to NOON = 3 hours

162 miles $\div$ 3 hours =

54 mph

5. $3(x+4)$

$(3 \cdot x) + (3 \cdot 4)$

$3x + 12$

6. $\sqrt{25} - \sqrt{16}$ ○ $\sqrt{25-16}$

$5 - 4$ $\sqrt{9}$

$1 < 3$

7. $1.4, 0, 0.14, \frac{1}{4}, 1, -\frac{1}{4}$

0.25 -0.25

least → greatest

$-\frac{1}{4}, 0, 0.14, \frac{1}{4}, 1, 1.4$

8. $58 + 58 + \square = 180$

$116 + \square = 180$

$180 - 116 = 64°$

9. Two sides equal =

ISOSCELES

10. 3 units, 4, 3 units, 4

$A = (b \cdot h) \div 2$

$A = (3 \cdot 3) \div 2$

$A = 9 \div 2$

$A = 4.5$ units^2

11. $a^2 + b^2 = c^2$

$8^2 + 6^2 = c^2$

$64 + 36 = c^2$

$100 = c^2$

$\sqrt{100} = 10$ cm

Perimeter $= 6 + 8 + 10 =$ 24cm.

12. $20 - [10 - 5(3-1)]$

$20 - [10 - 5(2)]$

$20 - [10 - 10]$

$20 - 0 =$ 20

13. $\frac{x \cdot x \cdot y \cdot y \cdot y}{z \cdot z \cdot z \cdot z} = \frac{x^2 y^3}{z^4}$

14. $\frac{1}{2} bh$ $b = 12$, $h = 8$

$\frac{1}{2} \cdot 12 \cdot 8$

$6 \cdot 8 =$ 48

15. $50 = 2x + 10$

$50 = \boxed{40} + 10$

$2 \cdot 20$

$x = 20$

16. $1 - x = \frac{2}{5}$

$\frac{5}{5} - x = \frac{2}{5}$

$x = \frac{3}{5}$

17. $\frac{3}{4} \cdot \frac{8}{9} = \frac{24}{36}$ $\frac{24}{36} \div 12 = \frac{2}{3}$

18. $\frac{3}{5} \div \frac{3}{4}$

$\frac{3}{5} \cdot \frac{4}{3} = \frac{12}{15}$ $\frac{12}{15} \div 3 = \frac{4}{5}$

19. $\frac{2.40 - 0.24}{2} = \frac{2.16}{2} = 1.08$

20. $(0.12)^2 = .12 \times .12 = .0144$