Name_____ **W#62**

CC_____ Jan. 5-6, 2012

Midterm Review

Part 1 Directions: Show all work, including eliminating answers. Do not use a calculator. Circle your answers, then write the corresponding letter on the line.

_____ 1. Which number is irrational?

A $\sqrt{4}$ B $\frac{1}{4}$

C $0.\overline{4}$ D $\sqrt{40}$

_____ 2. Austen and Grant are playing a game with number cards. At the end of the game, Austen still has 5 cards. If the value of each card is –50 points, how many points does Austen have?

A –250

B –10

C 10

D 250

_____ 3. What is the value of the expression? $|2-5| + 2 \cdot \sqrt{16}$

A 5

B 11

C 15

D 20

_____ 4. Simplify: $\frac{5^8}{5^5}$.

A 5^1

B 5^2

C 5^3

D 5^{13}

_____ 5. Rachel wrote the four numbers below in scientific notation.

9.9×10^3 5.6×10^{-6} 4.8×10^{-3} 1.0×10^4

Which number has the **greatest** value?

A 9.9×10^3

B 5.6×10^{-6}

C 4.8×10^{-3}

D 1.0×10^4

_____ 6. The circumference of a circular clock is 64π mm. What is the ***diameter*** of the clock?

A 8 mm

B 32 mm

C 64 mm

D 128 mm

_____ 7. A nanometer is a length of 1.0×10^{-9} meter. Write this expression as a standard numeral.

A 0.0000000001

B 0.000000001

C 0.00000001

D 1,000,000,000

_____ 8. Which set of numbers only includes integers?

A {–4, –5.6, 0}

B {–14, $\sqrt{121}$, 57}

C {–9, –4, $\sqrt{14}$}

D {–3.3, –1.8, –0.5}

_____ 9. In the year 2000, there were approximately 4,740,000 persons under the age of 18 living in New York State. How is the population number written in scientific notation?

A 4.74×10^{-6}

B 4.74×10^{-4}

C 4.74×10^{4}

D 4.74×10^{6}

_____ 10. What is the greatest common factor of 36 and 84?

A 4

B 6

C 12

D 252

_____ 11. Simplify: $3^3 \bullet 3^5$

A 3^8

B 3^{15}

C 9^8

D 9^{15}

_____ 12. What is the **prime factorization** of 96?

A $2^4 \times 6$

B $2^4 \times 3^2$

C $2^5 \times 3$

D $2 \times 3 \times 4^2$

_____ 13. The square root of a number is between 8 and 9. Which of these could be that number?

A 17

B 63

C 71

D 89

_____ 14. Evaluate: $-38 - (-16) =$ _____

A –54

B –22

C 22

D 54

_____ 15. Evaluate: $(-4)(3)(-1)(-2)$

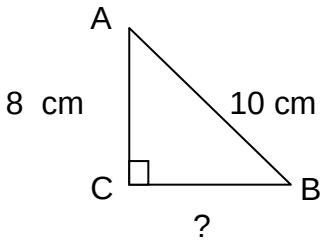
A 4

B –4

C 24

D –24

_____ 16. In triangle ABC below, πACB is a right angle. If the length of $\overline{AC}$ is 8 centimeters and the length of $\overline{AB}$ is 10 centimeters, what is the length, in centimeters, of $\overline{BC}$?



(not drawn to scale)

A 2

B 4

C 5

D 6

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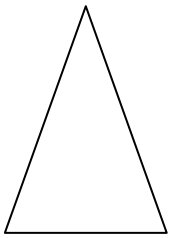
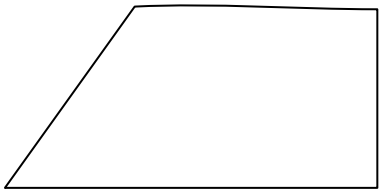
Part 2 Directions: Show all work and BOK. You may use a calculator.

17. Find the missing angle in each polygon below. The polygons are not drawn to scale.

a.



b.



Answers: a _____ ***b*** _____

18. Is it possible to have a right triangle with lengths of 16 cm, 20 cm, and 24 cm?

Answer: _____

19. Ms. Burdick went shopping. She took $10 with her to spend. She wants to buy the following items. Use ***estimation*** to determine if she has enough money.

1 bag of apples $3.29
1 box of microwave popcorn $1.89
1 gallon of milk $2.40
2 packs of gum for $0.75 each

Answer: _____

20. What is the volume of a cylinder with a height of 80 inches and a diameter of 12 inches? Leave your answer in terms of pi.

Answer: _____