3. The 7th grade fundraiser gives away a large container of gumballs to the student who is closest to guessing the correct number of gumballs in the container. Noticing that the container is a cube, Sally decides to count the number of gumballs along the length of one side.

If Sally guessed 729 gumballs, how many gumballs did she count along 1 side of the container?

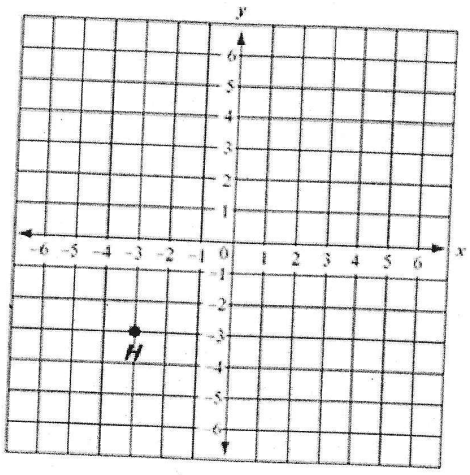
A. 9

B. 27

C. 73

D. 243

18. Ellen's house H is represented on the coordinate grid provided. Ellen walks 4 blocks north and then 3 blocks east to get to the library. Each grid unit represents one city block.



How far would she have walked if she walked directly to the library in a straight line?

A. 1 block

B. 5 blocks

C. 7 blocks

D. 9 blocks

19. Which change in the dimensions of a cone would cause the volume the cone to double?

A. Reduce the radius of the cone by half.

B. Reduce the height of the cone by half.

C. Double the radius of the cone.

D. Double the height of the cone.

4. Residents who live in the city receive power from the city's power plant. If the city is a square, *approximately* how wide is the city if its area is 200 square miles?

A. 10 miles

B. 14 miles

C. 18 miles

D. 20 miles

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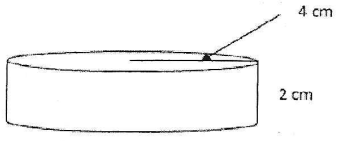
20. What is the surface area of the cylinder?



A. 6π square centimeters

B. 8π square centimeters

C. 36π square centimeters

D. 48π square centimeters

1. Which expression is equivalent to $\frac{[(y^3)((3x)^{-2})]}{[y(x^2)]}$?

A. $9(y^2)$

B. $9(y^2)(x^4)$

C. $\frac{(y^2)}{[9(x^4)]}$

D. $\frac{(y^2)}{9}$

6. The earth is 4,540,000,000 years old.

If this number is written in scientific notation, what is the value of the exponent on 10?

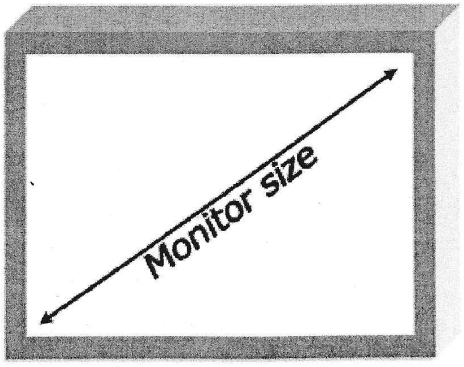
A. 4

B. 5

C. 7

D. 9

15. Jasmine wants to determine the size of her computer monitor by measuring the diagonal of her screen.



If the screen is 15 inches wide and 8 inches tall, what is the size of Jasmine's computer monitor?

A. 7 inches

B. 11 inches

C. 17 inches

D. 23 inches

16. To get to school James walks three blocks north and then four blocks east. How much shorter would it be if he could walk directly to school?

A. 7 blocks

B. 5 blocks

C. 2 blocks

D. 1 block

2. What is the least common multiple of the expressions $4(xy)^2$ and $3(x^3)\,y$?

A. $(x^2)\,y$

B. $(x^6)\,(y^2)$

C. $12(x^3)\,(y^2)$

D. $12(x^6)(y^2)$

23. To which set of numbers does -52 belong?

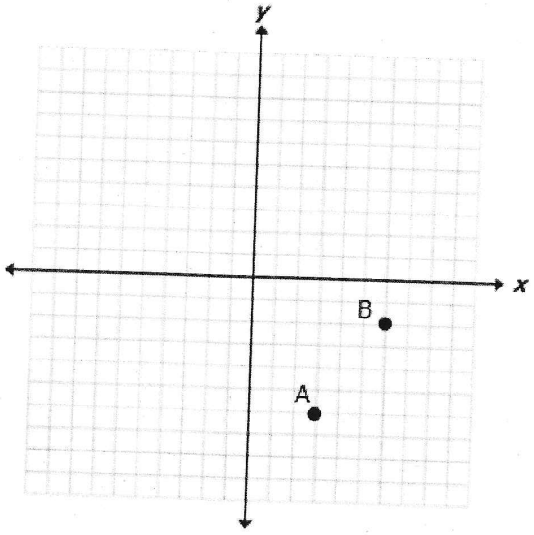
A. prime

B. integers only

C. irrational only

D. both integers and rational

17. Points A (3, -6) and B (6, -2) are graphed on a coordinate plane.



What is the distance between points A and B?

A. 2

B. 5

C. 7

D. 12

27. Which choice correctly places the set of rational numbers from *least* to *greatest*?

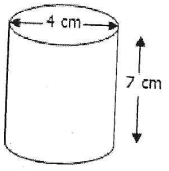
A. $\left\{\sqrt{2}, 45\%, 0.32, \frac{1}{4}\right\}$

B. $\left\{\frac{1}{4}, 45\%, 0.32, \sqrt{2}\right\}$

C. $\left\{\frac{1}{4}, 0.32, \sqrt{2}, 45\%\right\}$

D. $\left\{\frac{1}{4}, 0.32, 45\%, \sqrt{2}\right\}$

22. A soup company currently packages its soup cans shown in the diagram.



The company wants to package more soup in each container. If they triple the height and keep the radius the same, how will the volume be affected?

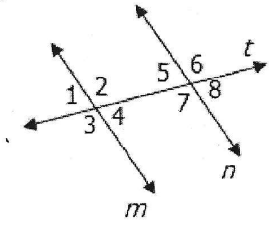
A. The volume would be 2 times greater.

B. The volume would be 3 times greater.

C. The volume would be 6 times greater.

D. The volume would be 9 times greater.

9. In the diagram, transversal t intersects parallel lines m and n.



If the measure of angle 6 is 110°, what is the measure of angle 7?

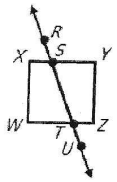
A. 20°

B. 70°

C. 110°

D. 160°

8. Line *RU* passes through two sides of square *WXYZ*.



Which term describes the relationship between angle *RSX* and angle *RSY*?

A. alternate interior angles

B. corresponding angles

C. supplementary angles

D. vertical angles

5. Liam considers the expression his math teacher wrote on the board, shown in the box.

$$\left(\frac{1}{4}\right)^3$$

Which is a correct equivalent expression?

A. $\frac{1}{12}$

B. $\frac{3}{12}$

C. $\frac{1}{64}$

D. $\frac{3}{64}$

28. Which number is more than 27 and less than 28?

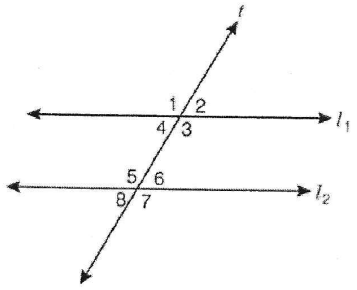
A. $\sqrt{27}$

B. 5^2

C. $\frac{82}{3}$

D. $\sqrt{602}$

10. Eight angles are formed in the diagram.



If angle 2 measures 75°, what is the measure of angle 5?

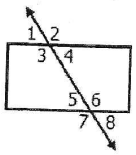
A. 15°

B. 75°

C. 105°

D. 115°

11. A line passes through two sides of a rectangle.



The measure of angle 2 is 125 degrees. What is the measure of angle 5?

A. 50 degrees

B. 55 degrees

C. 120 degrees

D. 125 degrees

13. Alex is going to Teddy's house, but first he will stop to get a snack. Alex walks 4 blocks south to a corner store, where he buys the snack. Then he walks 5 blocks west to get to Teddy's. To return home, Alex walks directly from Teddy's house to his own house in a straight line. Which statement is the *most* accurate?

A. Alex walked slightly more than 6 blocks to get home.

B. Alex walked slightly more than 7 blocks to get home.

C. Alex walked exactly 6 blocks to get home.

D. Alex walked exactly 7 blocks to get home.

7. Which number is equivalent to $(2.3 \times 10^7) \times (1.1 \times 10^3)$?

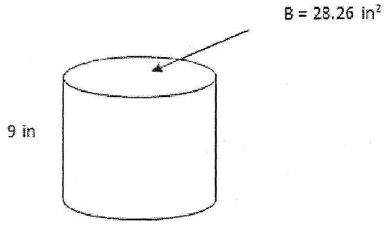
A. 2,530,000,000,000

B. 25,300,000,000

C. 2,530,000

D. 25,300

21. What is the volume of the cylinder?



A.

19.26 in.^{3}

B.

37.26 in.^{3}

C.

252 in.^{3}

D. 254.34 in.^{3}

26. Between which two numbers does $\sqrt{77}$ lie?

A. 6 and 7

B. 7 and 8

C. 8 and 9

D. 9 and 10

29. The area of a circle is given by the formula shown in the box, where r is the radius of the circle.

$$\boxed{A = \pi r^2}$$

If the area of a circle is 16π square units, what is the radius of the circle?

A. 4 units

B. 8 units

C. 32 units

D. 256 units

30. Claire's monthly cell phone bill can be calculated by using the equation $t = 19.99 + 0.06m$, where m represents the number of minutes that have exceeded the 300 minute limit on Claire's plan. If Claire's total minutes for the month are 335 minutes, what is her total bill, t, for the month?

A. \$18.00

B. \$20.05

C. \$22.09

D. \$37.99

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24. If 150% of x is equal to 90% of y, and if $y \neq 0$, what is the value of $\frac{x}{y}$?

A. $\frac{3}{5}$

B. $\frac{3}{4}$

C. $\frac{4}{3}$

D. $\frac{5}{3}$

12. The diagonal of a square is 32 cm. What is the *approximate* side of the square?

A. 16.2 cm

B. 22.6 cm

C. 25.7 cm

D. 29.7 cm

25. Between which 2 integers is the $\sqrt{132}$ located?

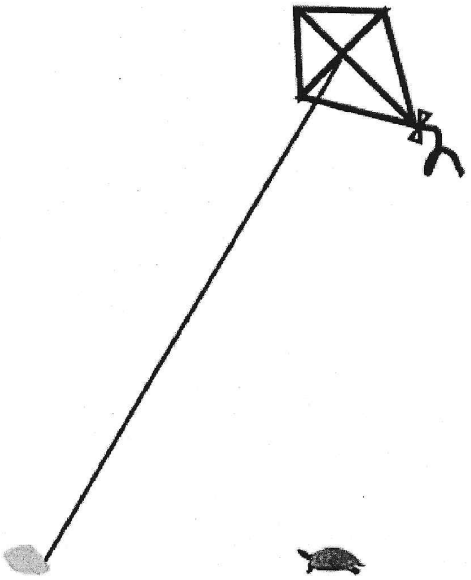
A. 10 and 11

B. 11 and 12

C. 12 and 13

D. 13 and 14

14. A kite is flying 20 feet high above a turtle. The other end of the string is anchored under a rock that is 15 feet from the turtle.



How long is the string?

A. 5 feet

B. 13 feet

C. 25 feet

D. 35 feet