Geometry
Daily Quiz 12032019

Question 1.

A sphere is inscribed inside a cube with edges of 6 cm. In cubic centimeters, what is the volume of the sphere, in terms of π?

(1) 12π
(2) 36π
(3) 48π
(4) 288π

Question 2.

Scalene triangle ABC is similar to triangle DEF. Which statement is *false*?

(1) $AB : BC = DE : EF$
(2) $AC : DF = BC : EF$
(3) $\angle ACB \cong \angle DFE$
(4) $\angle ABC \cong \angle EDF$

Question 3.

Which equation represents a line that is parallel to the line whose equation is $y = \frac{3}{2}x - 3$ and passes through the point (1,2)?

(1) $y = \frac{3}{2}x + \frac{1}{2}$
(2) $y = \frac{2}{3}x + \frac{4}{3}$
(3) $y = \frac{3}{2}x - 2$
(4) $y = -\frac{2}{3}x + \frac{8}{3}$

Question 4.

Lines a and b intersect at point P. Line c passes through P and is perpendicular to the plane containing lines a and b. Which statement must be true?

(1) Lines a, b, and c are coplanar.

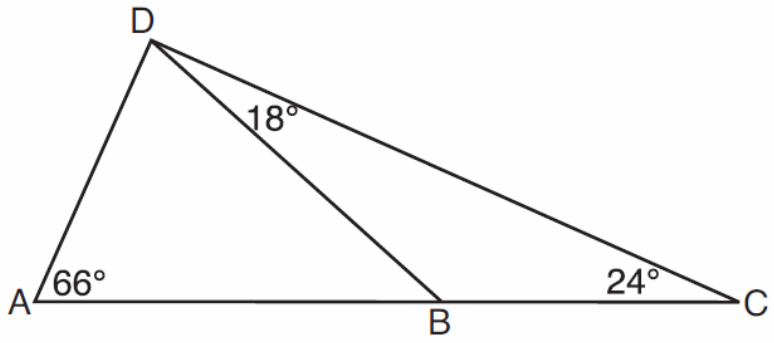
(2) Line a is perpendicular to line b.

(3) Line c is perpendicular to both line a and line b.

(4) Line c is perpendicular to line a or line b, but not both.

Question 5.

As shown in the diagram of $\triangle ACD$ below, B is a point on $\overline{AC}$ and $\overline{DB}$ is drawn.



If $m\angle A = 66$, $m\angle CDB = 18$, and $m\angle C = 24$, what is the longest side of $\triangle ABD$?

(1) $\overline{AB}$

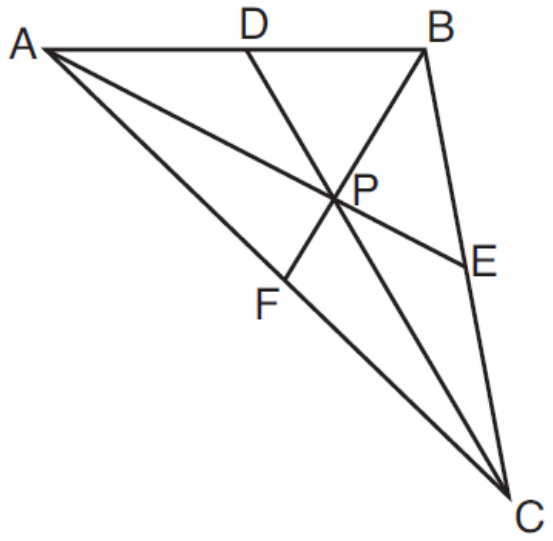
(2) $\overline{DC}$

(3) $\overline{AD}$

(4) $\overline{BD}$

Question 6.

In $\triangle ABC$ shown below, P is the centroid and $BF = 18$.



What is the length of $\overline{BP}$?

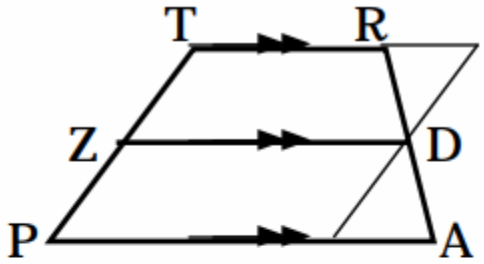
(1) 6

(2) 9

(3) 3

(4) 12

Question 7.

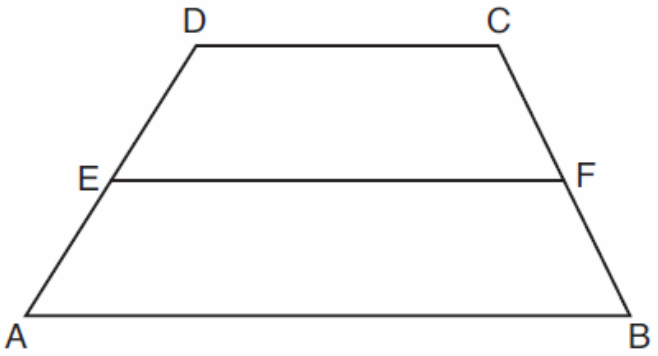


TRAPEZOID MEDIAN THM.: The median of a trapezoid is the average of the two parallel bases and parallel to each base.

$$// \overline{ZD} //$$

$$= \frac{TR + AP}{2}$$

In the diagram below, $\overline{EF}$ is the median of trapezoid $ABCD$.



If $AB = 5x - 9$, $DC = x + 3$, and $EF = 2x + 2$, what is the value of x?

(1) 5

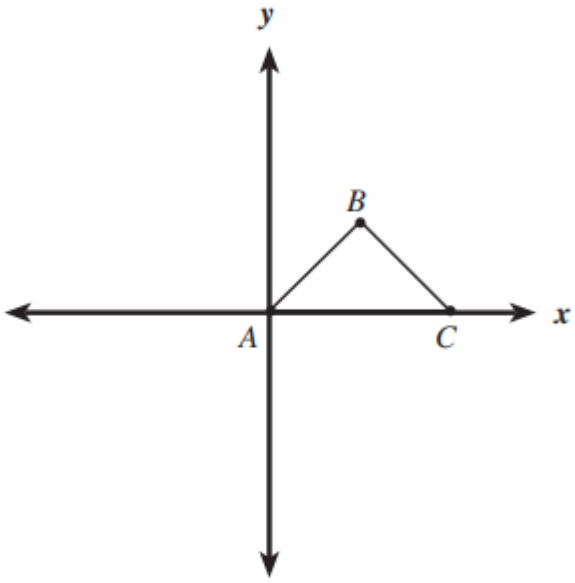
(2) 2

(3) 7

(4) 8

Question 8.

The diagram shows $\triangle ABC$.



Which statement would prove that $\triangle ABC$ is a right triangle?

A $\left(\text{slope } \overline{AB}\right)\left(\text{slope } \overline{BC}\right) = 1$

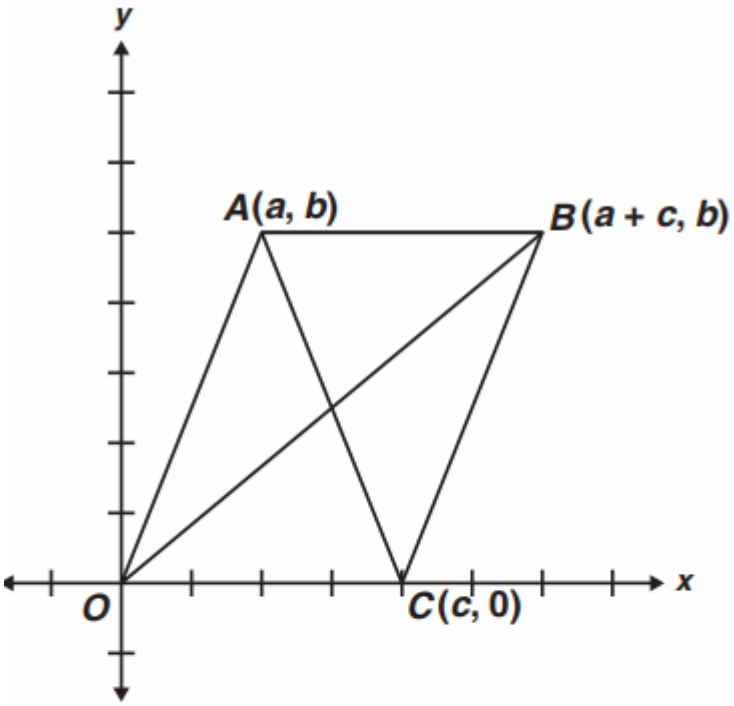
B $\left(\text{slope } \overline{AB}\right)\left(\text{slope } \overline{BC}\right) = -1$

C distance from A to B = distance from B to C

D distance from A to B = − (distance from B to C)

Question 9.

Figure *ABCO* is a parallelogram.



What are the coordinates of the point of intersection of the diagonals?

A $\left(\frac{a}{2}, \frac{b}{2}\right)$

B $\left(\frac{c}{2}, \frac{b}{2}\right)$

C $\left(\frac{a+c}{2}, \frac{b}{2}\right)$

D $\left(\frac{a+c}{2}, \frac{a+b}{2}\right)$

Question 10.

What type of triangle is formed by the points $A(4,2)$, $B(6,-1)$, and $C(-1,3)$?

A right

B equilateral

C isosceles

D scalene

Bonus.

Use the information provided to answer Part A and Part B for question 2.

The equation $x^2 + y^2 - 4x + 2y = b$ describes a circle.

2. Part A

Determine the y-coordinate of the center of the circle.

Enter your answer in the box.

Part B

The radius of the circle is 7 units. What is the value of b in the equation?

Enter your answer in the box.

You must show your working to get your points for this problem.

PARCC
Partnership for Assessment of Readiness for College and Careers

High School Mathematics Assessment Reference Sheet

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilograms
1 kilogram = 2.2 pounds
1 ton = 2000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallons
1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d \ \ or \ \ C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pyramid	$V = \frac{1}{3}Bh$

Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1-r}$ where $r \neq 1$
Radians	1 radian $= \frac{180}{\pi}$ degrees
Degrees	1 degree $= \frac{\pi}{180}$ radians

PA00003145

942260 1 2 3 4 5 A B C D E Printed in the USA ISD10957