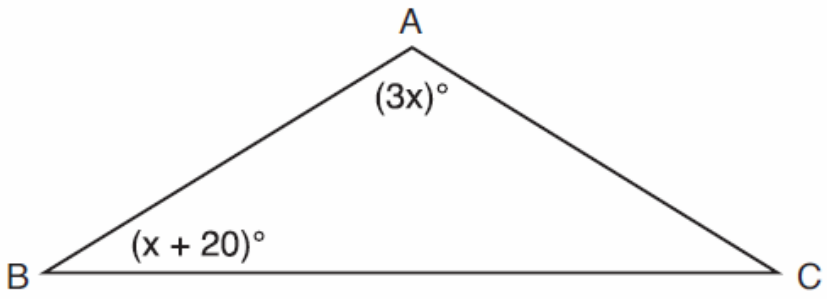
Geometry
Daily Quiz 12042019

Question 1.

In the diagram below of $\triangle ABC$, $\overline{AB} \cong \overline{AC}$, $m\angle A = 3x$, and $m\angle B = x + 20$.



What is the value of x?

(1) 10
(2) 28
(3) 32
(4) 40

Question 2.

For which polygon does the sum of the measures of the interior angles equal the sum of the measures of the exterior angles?

(1) hexagon
(2) pentagon
(3) quadrilateral
(4) triangle

Question 3.

The slope of line ℓ is $-\frac{1}{3}$. What is an equation of a line that is perpendicular to line ℓ?

(1) $y + 2 = \frac{1}{3}x$
(2) $-2x + 6 = 6y$
(3) $9x - 3y = 27$
(4) $3x + y = 0$

Question 4.

Which type of triangle can be drawn using the points $(-2,3)$, $(-2,-7)$, and $(4,-5)$?

(1) scalene

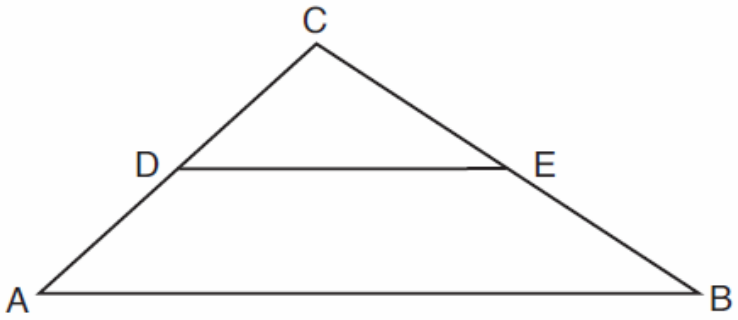
(2) isosceles

(3) equilateral

(4) no triangle can be drawn

Question 5.

In the diagram below, $\overline{DE}$ joins the midpoints of two sides of $\triangle ABC$.



Which statement is *not* true?

(1) $CE = \frac{1}{2}CB$

(2) $DE = \frac{1}{2}AB$

(3) area of $\triangle CDE = \frac{1}{2}$ area of $\triangle CAB$

(4) perimeter of $\triangle CDE = \frac{1}{2}$ perimeter of $\triangle CAB$

Question 6.

Which equation represents the line that is perpendicular to $2y = x + 2$ and passes through the point (4,3)?

(1) $y = \frac{1}{2}x - 5$

(2) $y = \frac{1}{2}x + 1$

(3) $y = -2x + 11$

(4) $y = -2x - 5$

Question 7.

Write the negation of the statement "2 is a prime number," and determine the truth value of the negation.

Question 8.

The point $(-3, 2)$ lies on a circle whose equation is $(x+3)^2 + (y+1)^2 = r^2$. Which of the following must be the radius of the circle?

A 3

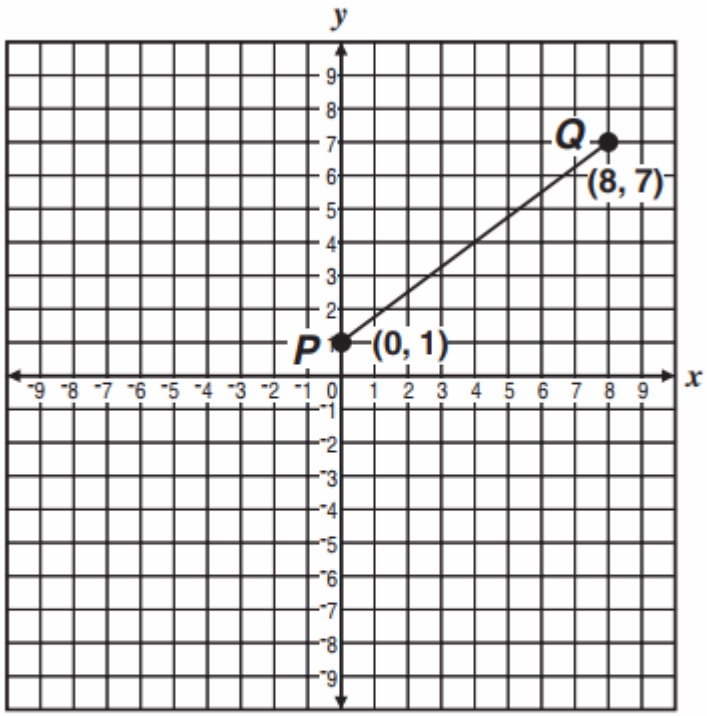
B $\sqrt{10}$

C 9

D 10

Question 9.

What is the length of line segment $\overline{PQ}$ shown below?



A 9 units

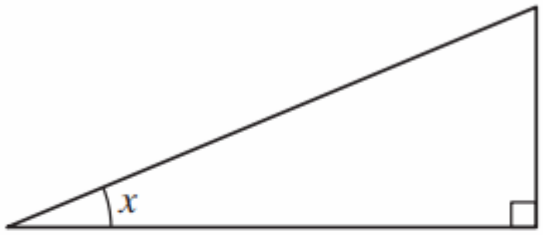
B 10 units

C 13 units

D 14 units

Question 10.

In the figure below, if $\sin x = \frac{5}{13}$, what are $\cos x$ and $\tan x$?



A $\cos x = \frac{12}{13}$ and $\tan x = \frac{5}{12}$

B $\cos x = \frac{12}{13}$ and $\tan x = \frac{12}{5}$

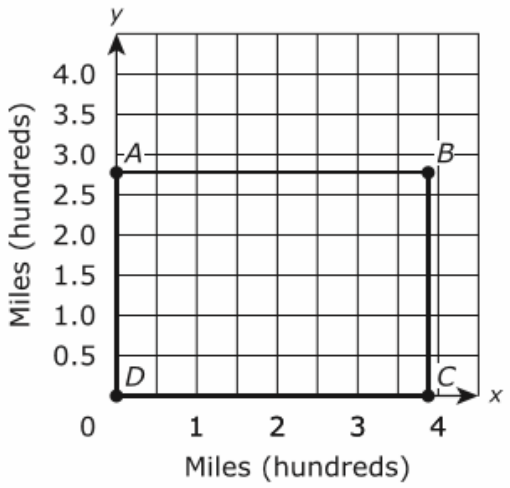
C $\cos x = \frac{13}{12}$ and $\tan x = \frac{5}{12}$

D $\cos x = \frac{13}{12}$ and $\tan x = \frac{13}{5}$

Bonus.

Use the information provided to answer Part A and Part B for question 43.

The figure shows rectangle *ABCD* in the coordinate plane with point *A* at (0, 2.76), *B* at (3.87, 2.76), *C* at (3.87, 0), and *D* at the origin. Rectangle *ABCD* can be used to approximate the size of the state of Colorado with the *x* and *y* scales representing hundreds of miles.



43. Part A

Based on the information given, how many miles is the perimeter of Colorado?

Enter your answer in the box.

Part B

At the end of 2010, the population of Colorado was 5,029,196 people. Based on the information given, what was the population density at the end of 2010?

A. 25 people per square mile

B. 47 people per square mile

C. 2,269 people per square mile

D. 7,586 people per square mile

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

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