Geometry
Daily Quiz 10292019

Question 1.

In $\triangle FGH$, $m\angle F = 42$ and an exterior angle at vertex H has a measure of 104. What is $m\angle G$?

(1) 34   (3) 76

(2) 62   (4) 146

Question 2.

In the diagram below, $\triangle ABC$ is circumscribed about circle O and the sides of $\triangle ABC$ are tangent to the circle at points D, E, and F.

If $AB = 20$, $AE = 12$, and $CF = 15$, what is the length of $\overline{AC}$?

(1) 8   (3) 23

(2) 15   (4) 27

Question 3.

In $\triangle ABC$ and $\triangle DEF$, $\dfrac{AC}{DF} = \dfrac{CB}{FE}$. Which additional information would prove $\triangle ABC \sim \triangle DEF$?

(1) $AC = DF$

(3) $\angle ACB \cong \angle DFE$

(2) $CB = FE$

(4) $\angle BAC \cong \angle EDF$

Question 4.

The angles of triangle ABC are in the ratio of 8:3:4. What is the measure of the *smallest* angle?

(1) $12°$

(3) $36°$

(2) $24°$

(4) $72°$

Question 5.

When a quadrilateral is reflected over the line $y = x$, which geometric relationship is *not* preserved?

(1) congruence

(3) parallelism

(2) orientation

(4) perpendicularity

Question 6.

Which equation represents circle O with center $(2,-8)$ and radius 9?

(1) $(x + 2)^2 + (y - 8)^2 = 9$

(2) $(x - 2)^2 + (y + 8)^2 = 9$

(3) $(x + 2)^2 + (y - 8)^2 = 81$

(4) $(x - 2)^2 + (y + 8)^2 = 81$

Question 7.

The volume of a rectangular prism is 144 cubic inches. The height of the prism is 8 inches. Which measurements, in inches, could be the dimensions of the base?

(1) 3.3 by 5.5   (3) 12 by 8
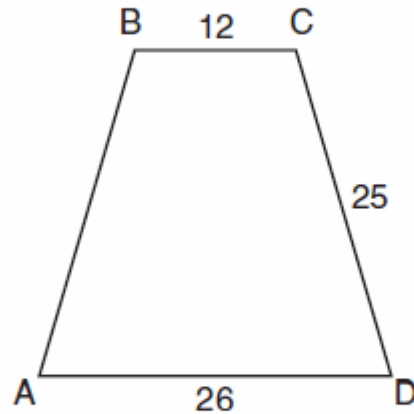
(2) 2.5 by 7.2   (4) 9 by 9

Question 8.

What is an equation of the line that is perpendicular to the line whose equation is $y = \frac{3}{5}x - 2$ and that passes through the point $(3,-6)$?

(1) $y = \frac{5}{3}x - 11$ (3) $y = -\frac{5}{3}x - 1$

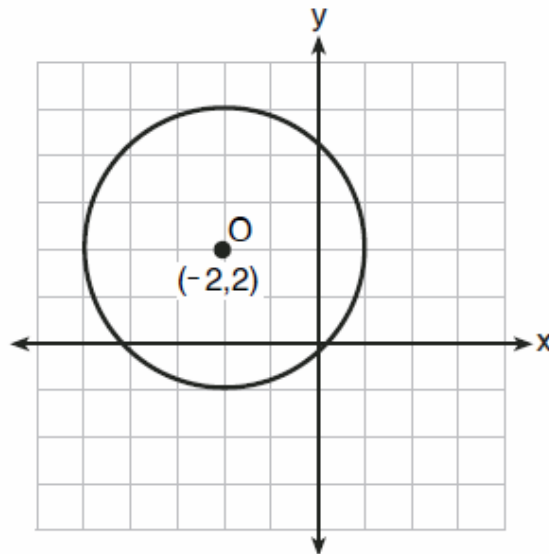(2) $y = -\frac{5}{3}x + 11$ (4) $y = \frac{5}{3}x + 1$

Question 9.

In the diagram below of isosceles trapezoid $ABCD$, $AB = CD = 25$, $AD = 26$, and $BC = 12$.

What is the length of an altitude of the trapezoid?

(1) 7   (3) 19

(2) 14   (4) 24
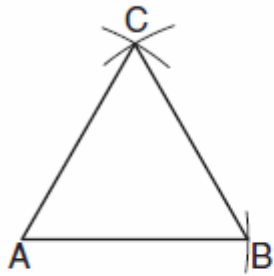
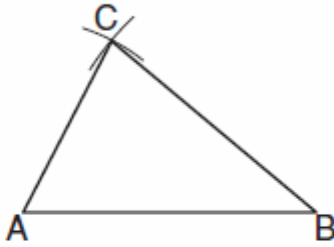**Question 10.**   What is an equation of circle O shown in the graph below?

(1) $(x + 2)^2 + (y - 2)^2 = 9$

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

(3) $(x - 2)^2 + (y + 2)^2 = 9$

(4) $(x - 2)^2 + (y + 2)^2 = 3$

Bonus Question.

Which diagram represents a correct construction of equilateral $\triangle ABC$, given side $\overline{AB}$?
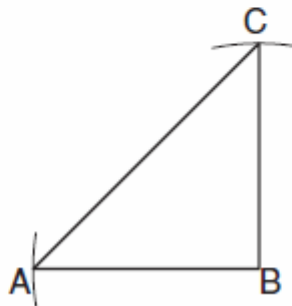

(1)

(3)

(2)

(4)

High School Mathematics Assessment Reference Sheet

1 inch = 2.54 centimeters   1 kilometer = 0.62 mile   1 cup = 8 fluid ounces
1 meter = 39.37 inches   1 pound = 16 ounces   1 pint = 2 cups
1 mile = 5280 feet   1 pound = 0.454 kilograms 1 quart = 2 pints
1 mile = 1760 yards   1 kilogram = 2.2 pounds   1 gallon = 4 quarts
1 mile = 1.609 kilometers   1 ton = 2000 pounds   1 gallon = 3.785 liters
                                                      1 liter = 0.264 gallons
                                                      1 liter = 1000 cubic centimeters

Triangle	$A = \dfrac{1}{2}bh$		Quadratic Formula	$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Parallelogram	$A = bh$		Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Circle	$A = \pi r^2$		Geometric Sequence	$a_n = a_1 r^{n-1}$
Circle	$C = \pi d \ \ or \ \ C = 2\pi r$		Geometric Series	$S_n = \dfrac{a_1 - a_1 r^n}{1-r}$ where $r \neq 1$
General Prisms	$V = Bh$		Radians	1 radian $= \dfrac{180}{\pi}$ degrees
Cylinder	$V = \pi r^2 h$		Degrees	1 degree $= \dfrac{\pi}{180}$ radians
Sphere	$V = \dfrac{4}{3}\pi r^3$			
Cone	$V = \dfrac{1}{3}\pi r^2 h$			
Pyramid	$V = \dfrac{1}{3}Bh$			