3. The median to the hypotenuse of a right triangle divides the triangle into two triangles that are both:
a. similar **b.** isosceles **c.** scalene **d.** right

4. Which proportion is *not* equivalent to $\frac{a}{b} = \frac{c}{d}$?
a. $\frac{a}{c} = \frac{b}{d}$ **b.** $\frac{b}{a+b} = \frac{d}{c+d}$ **c.** $\frac{b}{a} = \frac{d}{c}$ **d.** $\frac{a}{d} = \frac{c}{b}$

5. For every acute angle X:
a. $\cos X < \sin X$ **b.** $\cos X > \tan X$ **c.** $\tan X > 1$ **d.** $\cos X < 1$

B **6.** If A, B, and C are points on $\odot O$, $\overline{AC}$ is a diameter, and $m\angle AOB = 60$, then $m\angle ACB =$
a. 30 **b.** 60 **c.** 90 **d.** 120

7. A rectangle with perimeter 30 and area 44 has length:
a. $2\sqrt{11}$ **b.** 8 **c.** 11 **d.** 10

8. A regular hexagon with perimeter 24 has area:
a. $24\sqrt{3}$ **b.** $16\sqrt{3}$ **c.** $48\sqrt{3}$ **d.** $32\sqrt{3}$

9. In $\odot O$, $m\overset{\frown}{AB} = 90$ and $OA = 6$. The region bounded by $\overline{AB}$ and $\overset{\frown}{AB}$ has area:
a. $3\pi - 6$ **b.** $9\pi - 36$ **c.** $9\pi - 18$ **d.** $36\pi - 6\sqrt{2}$

10. Two regular octagons have sides of length $6\sqrt{3}$ and 9. The ratio of their areas is:
a. $2\sqrt{3}:3$ **b.** $4:3$ **c.** $2:3$ **d.** $8\sqrt{3}:9$

11. If F is the point $(-3, 5)$ and G is the point $(0, -4)$, then an equation of $\overleftrightarrow{FG}$ is:
a. $y = -\frac{1}{3}x + 4$ **b.** $y = -3x - 4$ **c.** $y = \frac{1}{3}x + 4$ **d.** $y = -3x + 4$

Completion Exercises

Write the correct word, number, phrase, or expression.

A **1.** If $5x - 1 = 14$, then the statement $5x = 15$ is justified by the ___?___.

2. If two parallel lines are cut by a transversal, then ___?___ angles are congruent, ___?___ angles are congruent, and ___?___ angles are supplementary.

3. The measures of two angles of a triangle are 56 and 62. The measure of the largest exterior angle of the triangle is ___?___.

4. In $\triangle BEV$ with $m\angle B = 53$ and $m\angle E = 63$, the longest side is ___?___.

5. The area of a triangle with vertices $(-2, 0)$, $(9, 0)$, and $(3, 6)$ is ___?___.

6. The distance between $(-5, -2)$ and $(1, -6)$ is ___?___.

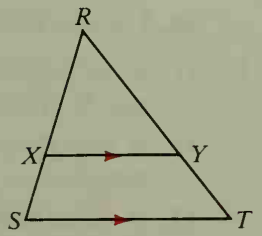
7. If $j \perp k$ and line j has slope $\frac{2}{3}$, then k has slope ___?___.

8. If A is $(-8, 3)$ and B is $(-4, -1)$, then the midpoint of $\overline{AB}$ is (___?___, ___?___).

B **9.** If O is the origin, then $R_x \circ \mathcal{R}_{O,90}:(-2, 5) \rightarrow$ (___?___, ___?___).

10. If $RX = 18$, $XS = 10$, and $RT = 35$, then $YT =$ ___?___.

11. If $RX = 16$, $XS = 8$, and $XY = 15$, then $ST =$ ___?___.



Exs. 10, 11