PreCalc BC **Analytic Trig.** **Name:**

1. What is the set of points in *space* equidistant from two vertices of an equilateral triangle and 2 units from the third vertex?

a) a circle b) two points c) a parabola
d) a line segment e) two parallel lines

2. The volume of the region between two concentric spheres of radii 2 and 5 is

a) 66 b) 28 c) 368 d) 490 e) 113

3. The lengths of two sides of a triangle are 50 inches and 63 inches. The angle opposite the 63-inch sides is 66°. How many degrees are in the largest angle of the triangle?

a) 72° b) 68° c) 71° d) 67° e) 66°

4. In ΔABC, $\angle B = 42°$, $\angle C = 30°$, and AB = 100. The length of BC is

a) 47.6 b) 66.9 c) 190.2
d) 133.8 e) none of the above

5. If A is the angle formed by the line $2y = 3x + 7$ and the *x*-axis, then $\angle A$ equals

a) 72° b) 56° c) 215°
d) 0° e) -45°

6. In a triangle with sides of 5, 6, and 7, the measure of the largest angle is

a) 11.5° b) 101.5° c) 78.5°
d) 66.5° e) 168.5°

7. What are the coordinates of the point on the line $7x - 3y = 11$ that is closest to the origin?

a) (1.57, 0) b) (1.33, 0.47) c) (1.33, -0.57)
d) (1.43, -0.47) e) (1.27, -0.67)

8. If the longer diagonal of a rhombus is 10 and the large angle is 100°, what is the area of the rhombus?

a) 45 b) 40 c) 37 d) 42 e) 50

9. In ΔABC, if sinA = 1/3 and sinB = 1/4, then sinC =

a) 0.14 b) 0.58 c) 0.56
d) 3.15 e) 2.51

10. In ΔABC, $a = 2x$, $b = 3x + 2$, $c = \sqrt{12}$, and $\angle C = 60°$. Find *x*

a) 0.50 b) 0.64 c) 0.77
d) 1.64 e) 1.78

11. A rectangular box has dimensions of length = 6, width = 4, and height = 5. The angle formed by the diagonal of the box with the base of the box measures

a) 27° b) 35° c) 40° d) 44° e) 55°

12. If a coordinate system is devised so that the positive *y*-axis makes an angle of 60° with the positive *x*-axis, what is the distance between the points with coordinates (4, -3) and (5, 1)?

a) 4.12 b) 4.58 c) 3.87
d) 3.61 e) 7.14

13. How many positive integers are there in the solution set of $\frac{x}{x-2} > 5$?

a) 0 b) 2 c) 4 d) 5 e) an infinite number

14. What is $\cot^{-1}\pi$?

a) .3295 b) .3082 c) .7920
d) 0 e) undefined