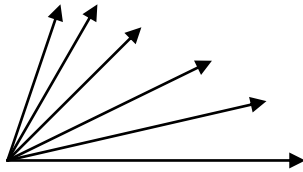


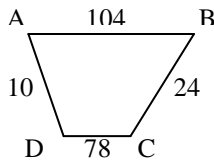
State exact answers. Do NOT use decimal approximations for π , $\sqrt{2}$, $\sqrt{3}$ etc. Fractions should be expressed in simplest form. Label answers with units measurements where appropriate.

1. _____ How many different angles less than 90° in measure are shown in the figure below?



2. _____ Find the volume of a right circular cone with radius of 9 cm and a slant height of 15 cm.

3. _____ Find the area of the trapezoid ABCD given the lengths of its sides in the diagram below are measured in inches.



4. _____ A certain type of gutter comes in 6, 8, and 10 foot sections. How many different lengths of gutter can be formed using exactly three sections of gutter?

5. _____ Consider 10 distinct points in a plane, with no three of them being collinear. How many distinct lines are determined by these points?

6. i) _____ For a regular decagon, find i) the measure of each vertex angle and ii) the measure of a central angle.

ii) _____

7. _____ Find the surface area of a right circular cylinder-shaped trash can with a height of 20 in and a base diameter of 15 in.

8. _____ A right regular pentagonal prism has how many planes of symmetry?

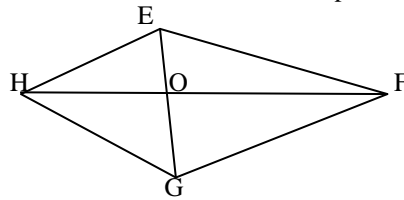
9. _____ Write in standard form the equation of the circle having a radius of 5 and its center located at (3, -5).

10. _____ A rectangle has a diagonal of 15cm. The width of the rectangle is 3 cm less than its length. Find the area of the rectangle.

11. _____ Using dimensional analysis, change 50 kg/m to g/cm.

12. _____

In the figure below, let HF be the perpendicular bisector of EG at O. List all pairs of line segments that have equal length.



13. _____ The area of an equilateral triangle is 3 cm^2 . Find the perimeter.

14. _____ What is the measure of the reflexive angle determined by the hands of a clock at eight o'clock?

15. _____ In a circle of radius 5 m the midpoint of a 6 m chord is how far from the center or the circle?

16. _____ What is the length of the central diagonal of cube with an edge 4 cm long?

17. _____ A solid metal cylinder of radius 2 in and height 6 in is melted down and recast as a cone with radius 3 in. Find the height of the cone.

18. _____ Find the circumference of a circle of area 24π square centimeters.