BIG PICTURE of this UNIT:	 mastery with linear algebraic skills to be used in our work with coordinate geometry (midpoint, length, slope) understanding various geometric properties of quadrilaterals, triangles & circles how do you really "prove" that something is "true"? introduction to working with 3D shapes
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Part 1 - Skills Review

- 1. Find the volume and surface area of the rectangular prism shown.
- 2. An isosceles triangle has sides of lengths 10 cm, 10 cm and 15 cm. Determine its area.
- 3. Find the intersection of the following 2 lines: y = -2x + 5 and 3x 2y = 11.



- 1. A triangle has vertices at A(-3,-2), B(-5,-6), and C(5,0).
 - a. Determine the equation of the median from vertex A.
 - b. Determine the equation of the altitude from vertex A.
 - c. Determine the equation of the perpendicular bisector of BC.
 - d. What type of triangle is $\triangle ABC$? Explain how you know.
- 2. Points P(-9,2) and Q(9,-2) are endpoints of a diameter of a circle.
 - a. Write the equation of the circle.
 - b. Show that R(7,6) is also on the circle.
 - c. Show that \angle PRQ is a right angle.
- 3. A trapezoid has vertices at A(1,2), B(-2,1), C(-4,-2) and D(2,0).
 - a. Show that the line segment joining the midpoints of BC and AD is parallel to both AB and DC.
 - b. Show that the length of this line segment is half the sum of the lengths of the parallel sides.



Part 3 - NEW Skills & PRACTICE

- 1. *Prisms* are 3D figures that have congruent parallelogram sides, and a solid base, which is either of two parallel ends on the figure.
 - Examples







Each figure above is a kind of	The second	
is called a	The third is a	, and
the fourth is a		

The formula to find the volume of a prism is: $V = area of base \times height$

To find the surface area, we sum together the areas of all faces of the prism.

2. Find the volume and surface area of each of the following prisms:





- 3. Solve for the unknown in each of the following prisms:
 - 1. Volume = $600 \ cm^3$



2. Volume = $440 m^3$

