## LENGTH OF LINE APPLICATIONS

## LEARNING GOALS

Students will:

- Use the length formula to find the distance between two points on a graph.


## LENGTH OF LINE

| Length of Line | Formula: |
| :--- | :--- |

## EXAMPLE 1: CALCULATE A LENGTH

To make round parts programmable machine tools often use a coordinate system with the origin at the centre of the part. How far apart are the centres of the mounting holes $A$ and $B$ in this cam? The coordinates are in centimetres. Round your answer to the nearest tenth.


EXAMPLE 2: COMPARE DISTANCES
An air ambulance service uses a grid system to help estimate flying times and fuel requirements. Coordinates on this grid are distances in km east and north of a reference point on the lower left corner of a mal of northern Ontario. A helicopter ambulance picks up a patient at point P (96, 197). The nearest hospitals that can provide the treatment the patient needs are in Timmins at $T$ $(200,296)$ and Sudbury at $S(232,80)$.
a) Draw a rough diagram showing the three points.
b) To which hospital should the helicopter take the patient?
c) List any assumptions you made for your answer.

EXAMPLE 3: FIND THE LENGTH OF A MEDIAN
Find the length of the median from $P$ for a triangle with vertices $P(-2,-2), Q(7,-1)$, and $R$ $(1,5)$.

## HOMEFUN ©

Ho-Calculating the Length of a Line Segment
Ho-Worksheet 4-1-2: Length of Dot Paper Segments
Read pgs. 70, 74-76. pg. 77-79 \#1-6,12,13,15,20

