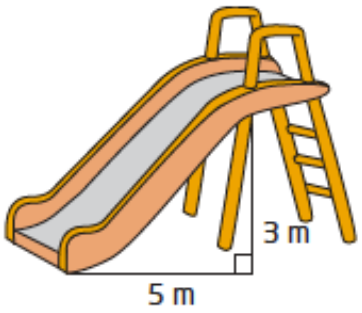
5.3 – Slope Worksheet #3

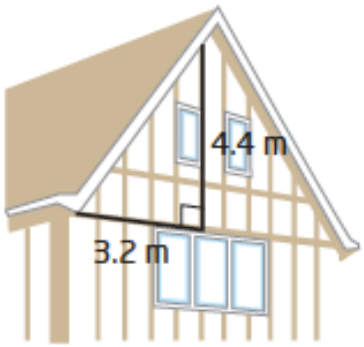
MPM1D

1. Determine the slope of each object.

a)



b)



2. A section of road is built with a vertical rise of 2.5 m over a horizontal run of 152 m. Find the slope, to the nearest hundredth.

3. To be safe, a wheelchair ramp needs to have a slope no greater than 0.08. Does a wheelchair ramp with a vertical rise of 1.4 m along a horizontal run of 8 m satisfy the safety regulation.

4. Calculate the slope of each line segment, where possible.

a) AB: _____

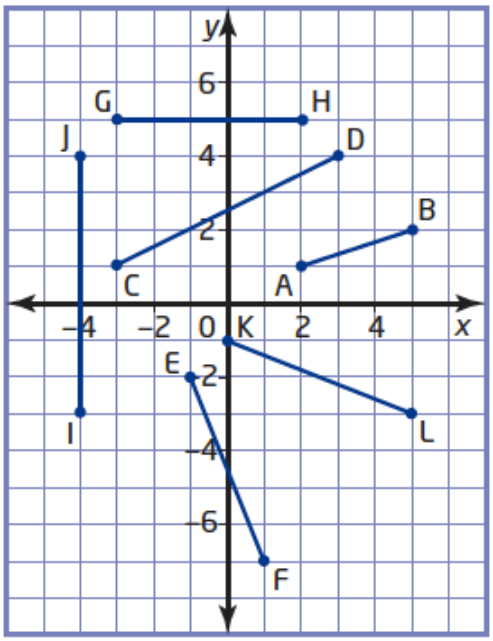
b) CD: _____

c) EF: _____

d) GH: _____

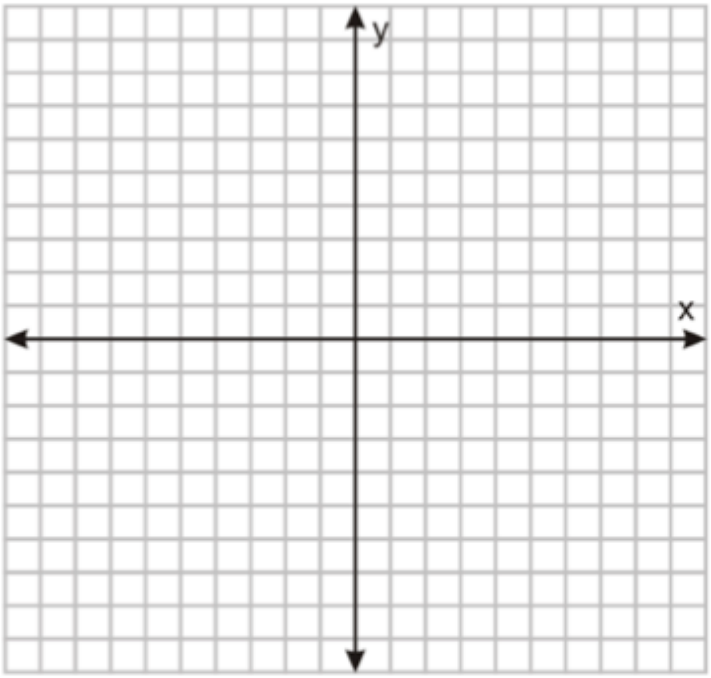
e) IJ: _____

f) KL: _____



5. A line segment has one endpoint of A(3, 1).

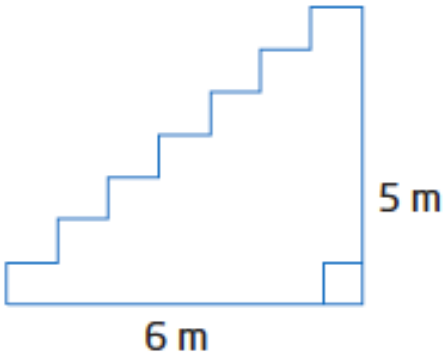
a) Plot the point A on the grid below.
b) Use the slope $\frac{3}{2}$ to locate another possible endpoint
What are the coordinates of B?



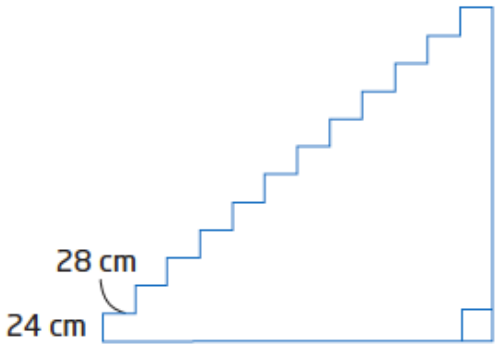
6. A line segment has one endpoint of A(6, -2) and slope of $\frac{-3}{4}$. Find the coordinates of another possible endpoint B by adding the appropriate values to the coordinates of point A.

7. For safety reasons, a staircase should have a slope between 0.58 and 0.70. Determine whether each staircase is within the safety range.

a)



b)



8. Given a point A(-2, 5), find the coordinates of a point B so that the line segment AB has each slope.

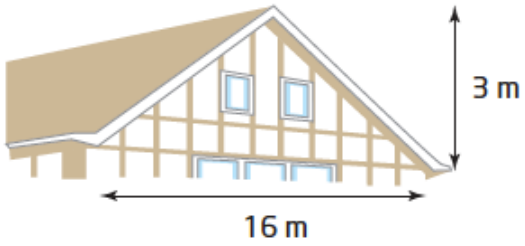
a) $\frac{2}{3}$ b) $\frac{-2}{3}$ c) 4

9. Roofers call the slope of a roof its pitch.
Roofs have different pitch classifications, which Indicate how safe they are for roofers to walk on.
They are classified as shown in this table.

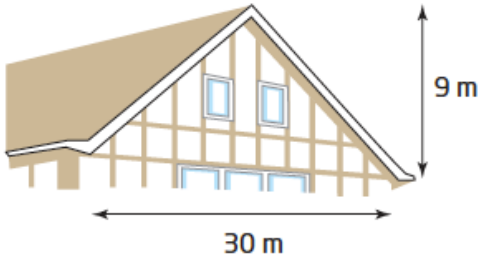
Classification	Pitch
Shallow	$m \leq \frac{3}{12}$
Medium	$\frac{3}{12} < m \leq \frac{6}{12}$
Steep	$m > \frac{6}{12}$

a) Classify each roof by its pitch.

i)



ii)



b) A roof is 10 m wide and has a pitch of $\frac{5}{12}$. Find the height.

10. A steel beam goes between the tops of two buildings that are 7 m apart. One building is 41 m tall. The other is 52 m tall. What is the slope of the beam?