***Working with Slopes – Mixed Problems***

1. Use slopes to determine if the following sets of points form a parallelogram.

|  |  |  |  |
| --- | --- | --- | --- |
| a)  |  | b)  |  |

1. Use slopes to determine if the following points form a trapezoid.

|  |  |  |  |
| --- | --- | --- | --- |
| a)  |  | b)  |  |

1. Use slopes to determine if the following points form a right angle triangle.

|  |  |  |  |
| --- | --- | --- | --- |
| a)  | L( –4, 3 )M( –2, –3 )N( 7, 0 ) | b)  | P( –1, –3 )Q( 3, 5 )R( –5, 0) |

1. Do the following three points form a straight line? Justify using slopes.
A( 13, 18 ) B( –5, 9 ) C( 19, 21 )

ANSWERS (I think!)

1a) NO b) YES 2. a) YES b) NO

3. a) Slopes: -3, $-\frac{3}{11}$, $\frac{1}{3}$ so YES
b) slopes: $-\frac{3}{4}$, 2, $\frac{5}{8}$ so NO
4. Both slopes = $\frac{1}{2}$ so YES

5. KM rise = 9, run = 6 so slope = $\frac{3}{2}$
KL rise = ?, run = 2. So rise = 3. *w* = 5
6. a = 3 7. (2, –7) or (–32, 19)

1. Point L lies on line segment KM as shown. What is the value of *w*? Show your work/thinking.

2. If the line that passes through the point (2, 7) and (*a*, *3a*) has a slope of 2, what is the value of *a*? Show your work/thinking.
3. A line with a slope of $-\frac{13}{17}$ passes through the point ( –15, 6). What is another point on the line? Explain how you got your answer.