Name: _____ **Date:** _____ **ID: A**

MPM2D - Worksheet - Slope & Distance Calculations

1. Given the points A(–10, 4), B(6, 7), C(8, –8) and D(–5, –5), calculate slopes and lengths for all sides.
2. Given the points A(–6, 3), B(6, 9), C(8, –3) and D(–4, –8), calculate slopes and lengths for all sides.
3. Given the points A(–4, 10), B(6, 5), C(3, –6) and D(–7, –9), calculate slopes and lengths for all sides.
4. Given the points A(–5, 9), B(9, 2), C(2, –10) and D(–8, –7), calculate slopes and lengths for all sides.
5. Given the points A(–6, 7), B(5, 3), C(9, –10) and D(–8, –7), calculate slopes and lengths for all sides.
6. Given the points A(–8, 9), B(2, 5), C(7, –7) and D(–9, –3), calculate slopes and lengths for all sides.
7. Given the points A(–8, 2), B(5, 10), C(2, –1) and D(–5, –10), calculate slopes and lengths for all sides.
8. Given the points A(–7, 4), B(5, 8), C(8, –9) and D(–4, –8), calculate slopes and lengths for all sides.
9. Given the points A(–8, 0), B(2, 10), C(9, –3) and D(–6, –10), calculate slopes and lengths for all sides.
10. Given the points A(–5, 8), B(9, 4), C(10, –10) and D(–8, –9), calculate slopes and lengths for all sides.
11. Given the points A(–7, 2), B(9, 4), C(0, –5) and D(–10, –9), calculate slopes and lengths for all sides.
12. Given the points A(–8, 0), B(6, 9), C(2, –2) and D(–10, –10), calculate slopes and lengths for all sides.
13. Given the points A(0, 8), B(10, 5), C(1, –8) and D(–7, –1), calculate slopes and lengths for all sides.
14. Given the points A(–6, 7), B(10, 10), C(2, –1) and D(–8, –10), calculate slopes and lengths for all sides.
15. Given the points A(–8, 10), B(9, 9), C(8, –4) and D(–2, –9), calculate slopes and lengths for all sides.
16. Given the points A(–5, 9), B(8, 10), C(5, –4) and D(–8, –1), calculate slopes and lengths for all sides.
17. Given the points A(–10, 5), B(5, 6), C(10, –6) and D(–8, –5), calculate slopes and lengths for all sides.
18. Given the points A(–2, 9), B(8, 6), C(7, –9) and D(–5, –5), calculate slopes and lengths for all sides.
19. Given the points A(–7, 9), B(10, 5), C(4, –8) and D(–9, –10), calculate slopes and lengths for all sides.
20. Given the points A(–4, 7), B(9, 2), C(4, –7) and D(–10, –10), calculate slopes and lengths for all sides.

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Answer Section

1. $m_{AB}=\frac{3}{16}$ $m_{BC}=-\frac{15}{2}$ $m_{CD}=-\frac{3}{13}$ $m_{AD}=-\frac{9}{5}$ $d_{AB}=\sqrt{265}$ $d_{BC}=\sqrt{229}$ $d_{CD}=\sqrt{178}$ $d_{AD}=\sqrt{106}$
2. $m_{AB}=\frac{1}{2}$ $m_{BC}=-6$ $m_{CD}=\frac{5}{12}$ $m_{AD}=-\frac{11}{2}$ $d_{AB}=\sqrt{180}$ $d_{BC}=\sqrt{148}$ $d_{CD}=\sqrt{169}$ $d_{AD}=\sqrt{125}$
3. $m_{AB}=-\frac{1}{2}$ $m_{BC}=\frac{11}{3}$ $m_{CD}=\frac{3}{10}$ $m_{AD}=\frac{19}{3}$ $d_{AB}=\sqrt{125}$ $d_{BC}=\sqrt{130}$ $d_{CD}=\sqrt{109}$ $d_{AD}=\sqrt{370}$
4. $m_{AB}=-\frac{1}{2}$ $m_{BC}=\frac{12}{7}$ $m_{CD}=-\frac{3}{10}$ $m_{AD}=\frac{16}{3}$ $d_{AB}=\sqrt{245}$ $d_{BC}=\sqrt{193}$ $d_{CD}=\sqrt{109}$ $d_{AD}=\sqrt{265}$
5. $m_{AB}=-\frac{4}{11}$ $m_{BC}=-\frac{13}{4}$ $m_{CD}=-\frac{3}{17}$ $m_{AD}=7$ $d_{AB}=\sqrt{137}$ $d_{BC}=\sqrt{185}$ $d_{CD}=\sqrt{298}$ $d_{AD}=\sqrt{200}$
6. $m_{AB}=-\frac{2}{5}$ $m_{BC}=-\frac{12}{5}$ $m_{CD}=-\frac{1}{4}$ $m_{AD}=12$ $d_{AB}=\sqrt{116}$ $d_{BC}=\sqrt{169}$ $d_{CD}=\sqrt{272}$ $d_{AD}=\sqrt{145}$
7. $m_{AB}=\frac{8}{13}$ $m_{BC}=\frac{11}{3}$ $m_{CD}=\frac{9}{7}$ $m_{AD}=-4$ $d_{AB}=\sqrt{233}$ $d_{BC}=\sqrt{130}$ $d_{CD}=\sqrt{130}$ $d_{AD}=\sqrt{153}$
8. $m_{AB}=\frac{1}{3}$ $m_{BC}=-\frac{17}{3}$ $m_{CD}=-\frac{1}{12}$ $m_{AD}=-4$ $d_{AB}=\sqrt{160}$ $d_{BC}=\sqrt{298}$ $d_{CD}=\sqrt{145}$ $d_{AD}=\sqrt{153}$
9. $m_{AB}=1$ $m_{BC}=-\frac{13}{7}$ $m_{CD}=\frac{7}{15}$ $m_{AD}=-5$ $d_{AB}=\sqrt{200}$ $d_{BC}=\sqrt{218}$ $d_{CD}=\sqrt{274}$ $d_{AD}=\sqrt{104}$
10. $m_{AB}=-\frac{2}{7}$ $m_{BC}=-14$ $m_{CD}=-\frac{1}{18}$ $m_{AD}=\frac{17}{3}$ $d_{AB}=\sqrt{212}$ $d_{BC}=\sqrt{197}$ $d_{CD}=\sqrt{325}$ $d_{AD}=\sqrt{298}$
11. $m_{AB}=\frac{1}{8}$ $m_{BC}=1$ $m_{CD}=\frac{2}{5}$ $m_{AD}=\frac{11}{3}$ $d_{AB}=\sqrt{260}$ $d_{BC}=\sqrt{162}$ $d_{CD}=\sqrt{116}$ $d_{AD}=\sqrt{130}$
12. $m_{AB}=\frac{9}{14}$ $m_{BC}=\frac{11}{4}$ $m_{CD}=\frac{2}{3}$ $m_{AD}=5$ $d_{AB}=\sqrt{277}$ $d_{BC}=\sqrt{137}$ $d_{CD}=\sqrt{208}$ $d_{AD}=\sqrt{104}$
13. $m_{AB}=-\frac{3}{10}$ $m_{BC}=\frac{13}{9}$ $m_{CD}=-\frac{7}{8}$ $m_{AD}=\frac{9}{7}$ $d_{AB}=\sqrt{109}$ $d_{BC}=\sqrt{250}$ $d_{CD}=\sqrt{113}$ $d_{AD}=\sqrt{130}$
14. $m_{AB}=\frac{3}{16}$ $m_{BC}=\frac{11}{8}$ $m_{CD}=\frac{9}{10}$ $m_{AD}=\frac{17}{2}$ $d_{AB}=\sqrt{265}$ $d_{BC}=\sqrt{185}$ $d_{CD}=\sqrt{181}$ $d_{AD}=\sqrt{293}$
15. $m_{AB}=-\frac{1}{17}$ $m_{BC}=13$ $m_{CD}=\frac{1}{2}$ $m_{AD}=-\frac{19}{6}$ $d_{AB}=\sqrt{290}$ $d_{BC}=\sqrt{170}$ $d_{CD}=\sqrt{125}$ $d_{AD}=\sqrt{397}$
16. $m_{AB}=\frac{1}{13}$ $m_{BC}=\frac{14}{3}$ $m_{CD}=-\frac{3}{13}$ $m_{AD}=\frac{10}{3}$ $d_{AB}=\sqrt{170}$ $d_{BC}=\sqrt{205}$ $d_{CD}=\sqrt{178}$ $d_{AD}=\sqrt{109}$
17. $m_{AB}=\frac{1}{15}$ $m_{BC}=-\frac{12}{5}$ $m_{CD}=-\frac{1}{18}$ $m_{AD}=-5$ $d_{AB}=\sqrt{226}$ $d_{BC}=\sqrt{169}$ $d_{CD}=\sqrt{325}$ $d_{AD}=\sqrt{104}$
18. $m_{AB}=-\frac{3}{10}$ $m_{BC}=15$ $m_{CD}=-\frac{1}{3}$ $m_{AD}=\frac{14}{3}$ $d_{AB}=\sqrt{109}$ $d_{BC}=\sqrt{226}$ $d_{CD}=\sqrt{160}$ $d_{AD}=\sqrt{205}$
19. $m_{AB}=-\frac{4}{17}$ $m_{BC}=\frac{13}{6}$ $m_{CD}=\frac{2}{13}$ $m_{AD}=\frac{19}{2}$ $d_{AB}=\sqrt{305}$ $d_{BC}=\sqrt{205}$ $d_{CD}=\sqrt{173}$ $d_{AD}=\sqrt{365}$
20. $m_{AB}=-\frac{5}{13}$ $m_{BC}=\frac{9}{5}$ $m_{CD}=\frac{3}{14}$ $m_{AD}=\frac{17}{6}$ $d_{AB}=\sqrt{194}$ $d_{BC}=\sqrt{106}$ $d_{CD}=\sqrt{205}$ $d_{AD}=\sqrt{325}$