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| |  | | --- | | **Distance Formula**: |   Ex. 4: Find the “length” of the line segment. Ex. 5: Find the distance between the 2 points. Round  to nearest tenth.  ( , ) and ( , ) (-3, 6) and (-10, -5) |
| |  | | --- | | **Slope Formula**: **m** |   Ex. 6: Find the slope. Ex. 7: Find the slope given two points.  ( , ) and ( , ) (-5, 1) and ( 4, -3) |
| |  | | --- | | **Midpoint Formula**: |   **[image]**Ex 1: Find the midpoint. Ex. 2: Find the midpoint given two points.  ( , ) ( , )  (8, 11) and (-2, -1)  x=  y=    midpoint ( , )  Ex. 3 Find the endpoint, given the midpoint and an endpoint.  Midpoint (3, 6) and Endpoint (-1, 2) |
| |  | | --- | | **Equation of the Line**:  m = slope b = y-intercept |   Ex. 8: Find the slope. Ex. 9: Find the slope. (solve for y) Ex. 10: Find the slope, special case.  a.  b.  m = |
| Ex. 11: Write the equation of the line: Ex. 12: Write the equation of the line:  Given the slope and a point. Given two points.  Start by finding **m** using slope formula.  Use **m** and choose either **point** to follow steps in Ex. 11.  Put **m** and **(x,y)** into y=mx+b, to find **b**.  Next, put **m and b** , into y=mx+b  (6, 2) and (4, 5) |
| |  | | --- | | **Parallel Lines** have the same slope. and |   Ex. 13: Write the equation of the line that is  parallel to  and passes through (9, 5)  (follow steps in Ex. 11) |
| |  | | --- | | **Perpendicular Lines** have “opposite reciprocal” slopes.  *ex.*  and |   Ex. 14: Find the slope perpendicular to: Ex. 15: Write the equation of the line perpendicular  a.  b. 7 \*c.  \*d.  to  and passes through (6, 2)    Ex. 16: Write the equation of the line that is  perpendicular to  and passes  through (-1, -4). |