Equations of Lines

Possible forms for linear equations

1. *Slope-intercept form: y = mx + b*
2. *Point-slope form v.1: y – y1 = m(x-x1)*
3. *Point-slope form v.2: y = y1 + m(x-x1)*
4. *General form: ax + by = c*
5. *Slope definition: (y – y1)/(x – x1) = m*
6. *Intercept form: x/a + y/b = 1*
7. *Factored form: y = a(x-b)*

In pairs, decide the form you would expect students to use when writing the equation of the line for each of the following given information. Explain your thinking.

1. the line through (0,5) and (3,-1)
2. a line parallel to 5x+3y = 6
3. line perpendicular to 5x+3y=6
4. a line parallel to y=-1- ½ (x - 3)
5. the line where

$\frac{f\left(3\right)-f(7)}{3-7}= -\frac{1}{2}$

1. the tangent line to a curve at (3, -1) passing through (7, -3)