Assignment 3 – Perpendicular and Parallel lines

1) Listed are slopes of various lines. Identify an example of a slope from a line which would be:
   - i. Parallel
   - ii. Perpendicular

   a) $-\frac{2}{5}$

   b) 9

   c) $\frac{3}{4}$

   d) 0

   e) -3

   f) $\frac{6}{11}$

2) Provided are the slopes of two lines. Determine whether the two lines are parallel, perpendicular or neither.

   a) $\frac{3}{4}$ and $\frac{4}{3}$
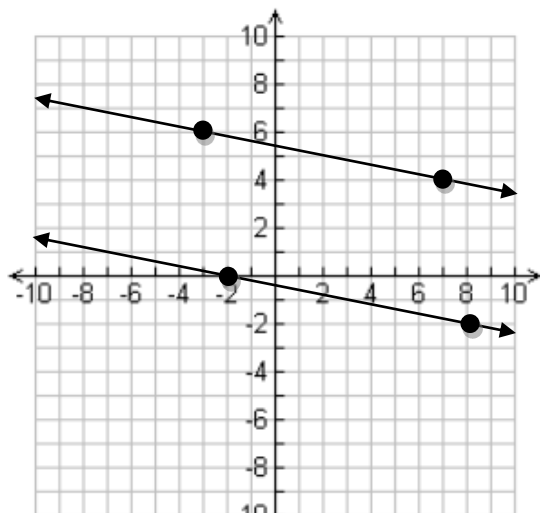
   b) $-\frac{6}{5}$ and $\frac{6}{5}$

   c) 7 and $-\frac{1}{7}$

   d) 5 and 5

   e) -5 and $\frac{1}{5}$

   f) 0 and undefined
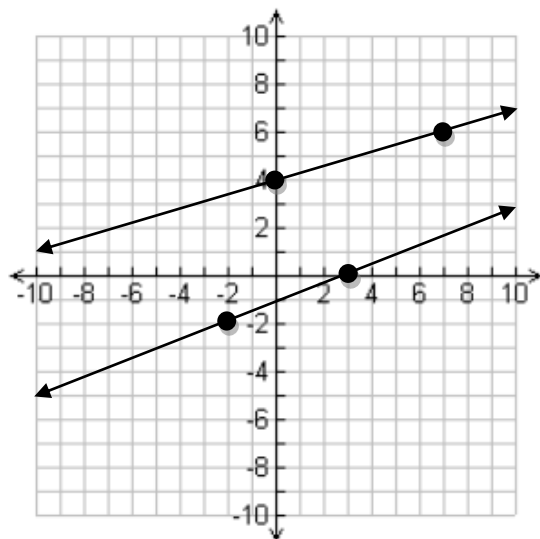
3) For each graph below, prove if the lines are parallel, perpendicular or neither.
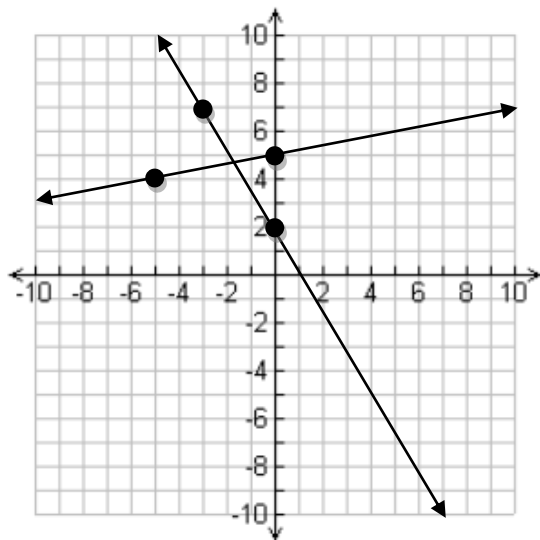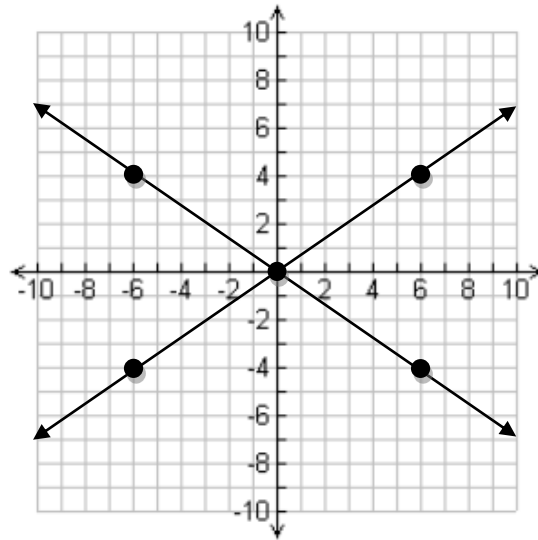
a)

b)
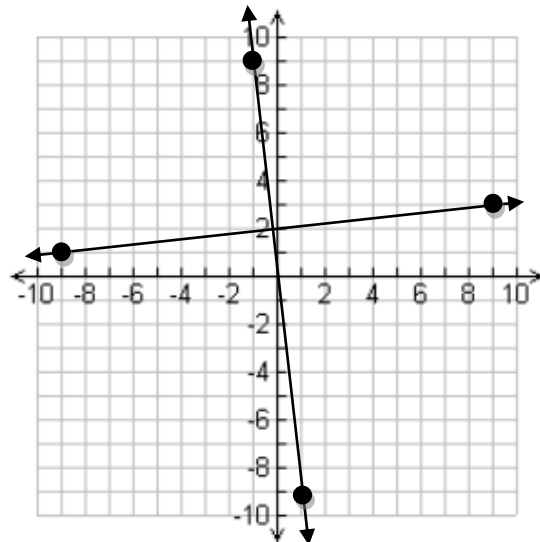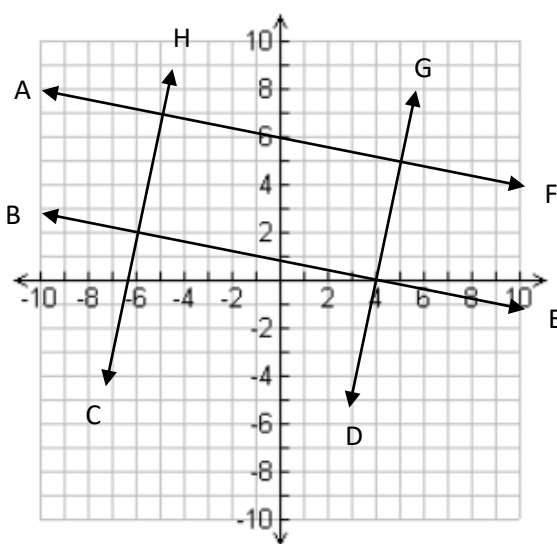

c)

d)

e)

4) Provided are the endpoints for two lines. Determine whether they are parallel, perpendicular or neither.

a) F (-3, -1), G(5, 5) and H(3, 1), I(-5, 5)

b) A (-5, -1), B(-2, 4) and C(3, 1), S(6, 6)

c) Q (-4, 3), R(2, -1) and S(-1, -6), T(5, -2)

5) Is the following shape:
   a) A parallelogram?
   b) A rectangle?

6) How are the following lines related?
   a) AB has an x-intercept of 4 and a y-intercept of 6
      CD has an x-intercept of -4 and a y-intercept of -6

   b) EF has an x-intercept of 1 and a y-intercept of -2
      AB has an x-intercept of -4 and a y-intercept of -2