

6. Write the conditional statement for "A bird has feathers." If it is a bird, then it has feathers.

7. Write the inverse, converse, contrapositive, and biconditional statement for "If it is a whale, then it swims."

a) Inverse: If it is NOT a WHALE, then it does NOT SWIM.

b) Converse: If it SWIMS, then it is a WHALE.

c) Contrapositive: If it does NOT SWIM, then it is NOT a WHALE.

d) Biconditional: It is a WHALE IF AND ONLY IF it SWIMS.

8. Write the equation of the line in POINT-SLOPE form using the given information.  $(y - y_1) = m(x - x_1)$

a) slope: 2 point: ~~(7, 1)~~ <sup>(-7, 1)</sup>

$$(y - 1) = 2(x + 7)$$

b) slope: ~~3~~ point: <sup>(1, 5)</sup> (-4, -9) *see 9C*

$$m = \frac{-9 - 5}{-4 - 1}$$

$$m = \frac{14}{5}$$

$$y - 5 = \frac{14}{5}(x - 1)$$

or

$$y + 9 = \frac{14}{5}(x + 4)$$

9. Write the equation of the line in SLOPE-INTERCEPT form using the given information.  $y = mx + b$

a) slope: 3 y-intercept: 5

$$y = 3x + 5$$

b) slope:  $\frac{1}{2}$  The line goes through (0, -8)

$$y = \frac{1}{2}x - 8$$

c) The line goes through (2, 10) and (20, 19)

$$y - 10 = \frac{1}{2}(x - 2)$$

$$y - 10 = \frac{1}{2}x - 1$$

$$y = \frac{1}{2}x + 9$$

$$m = \frac{19 - 10}{20 - 2}$$

$$m = \frac{9}{18} \quad m = \frac{1}{2}$$

10. Find the slope of a line containing the points (7, -8) and (7, 5).

$$m = \frac{5 - (-8)}{7 - 7}$$

$$m = \frac{13}{0}$$

undefined slope

11. Find the slope of a line containing the points (1, 3) and (5, 3).

$$m = \frac{3 - 3}{5 - 1} \quad m = \frac{0}{4}$$

$m = 0$