Direct and Inverse Variation Review Worksheet   Name:_____

Find the Missing Variable:

1) y varies directly with x. If y = -4 when x = 2, find y when x = -6.

2) y varies inversely with x. If y = 40 when x = 16, find x when y = -5.

3) y varies inversely with x. If y = 7 when x = -4, find y when x = 5.

4) y varies directly with x. If y = 15 when x = -18, find y when x = 1.6.

5) y varies directly with x. If y = 75 when x = 25, find x when y = 25.

Classify the following as: **a) Direct**   **b) Inverse**   **c) Neither**

6) $m = -5p$

7) $r = \dfrac{9}{t}$

8) $d = 4t$

9) $c = \dfrac{e}{-4}$

10) $n = \frac{1}{2} f$

11) $z = \dfrac{-.2}{t}$

12) $c = 3v$

13) $u = \dfrac{i}{18}$

What is the constant of variation for the following?

14) $d = 4t$ 15) $z = \dfrac{-.2}{t}$ 16) $n = \frac{1}{2} f$ 17) $r = \dfrac{9}{t}$

Answer the following questions:

18) The electric current I, in amperes, in a circuit varies directly as the voltage V. When 15 volts are applied, the current is 5 amperes. What is the current when 20 volts are applied?

19) The volume V of gas varies inversely to the pressure P. The volume of a gas is 200 cm^3 under pressure of 32 kg/cm^2. What will be its volume under pressure of 40 kg/cm^2?

20) The number of kilograms of water in a person's body varies directly as the person's mass. A person with a mass of 90 kg contains 60 kg of water. How many kilograms of water are in a person with a mass of 50 kg?

21) On a map, distance in km and distance in cm varies directly, and 25 km are represented by 2cm. If two cities are 7cm apart on the map, what is the actual distance between them?

22) The time it takes to fly from Los Angeles to New York varies inversely as the speed of the plane. If the trip takes 6 hours at 900 km/h, how long would it take at 800 km/h?