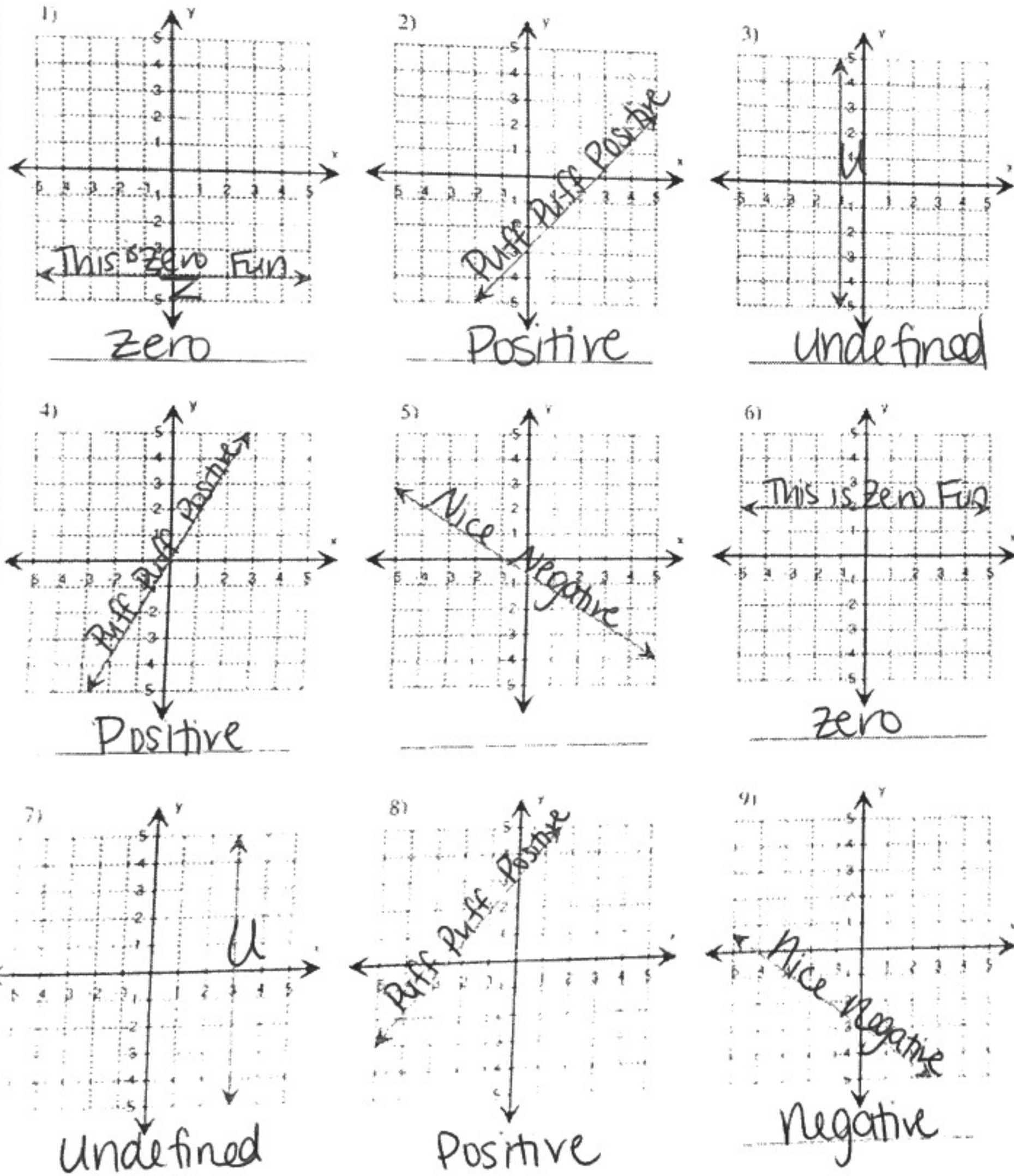


Name: \_\_\_\_\_

Score: \_\_\_\_\_

Slope Types

Write whether the slope of the line is positive, negative, zero or undefined.



$$\begin{aligned}
 10.) \quad & 4(3x+3) - 7 = 22 - 5x \\
 & 4(3x) + 4(3) - 7 = 22 - 5x \\
 & 12x + 12 - 7 = 22 - 5x \\
 & 12x + 5 = 22 - 5x \\
 & 12x + 5 + 5x = 22 - 5x + 5x \\
 & 17x + 5 = 22
 \end{aligned}$$

$$\begin{aligned}
 17x + 5 &= 22 \\
 17x + 5 - 5 &= 22 - 5 \\
 17x &= 17 \\
 \frac{17x}{17} &= \frac{17}{17} \\
 \boxed{x = 1}
 \end{aligned}$$

$$11.) \frac{x}{6} + 9 = 39$$

$$\begin{aligned}
 \frac{x}{6} + 9 - 9 &= 39 - 9 \\
 \frac{x}{6} &= 30
 \end{aligned}$$

$$\begin{aligned}
 \frac{x}{6} &= 30 \cdot 6 \\
 \boxed{x = 180}
 \end{aligned}$$

Simplify.

$$12.) 2m^2 \cdot 2m^3 = 2 \cdot 2 \cdot m^2 \cdot m^3 = 4m^{2+3} = \boxed{4m^5}$$

$$13.) 2x^3y^{-3} \cdot 2x^{-1}y^3 = 2 \cdot 2 \cdot x^3 \cdot x^{-1} \cdot y^{-3} \cdot y^3 = 4 \cdot x^{3-1} \cdot y^{-3+3} = 4x^2y^0 = \boxed{4x^2}$$

$$14.) (2x^2)^{-4} =$$

$$15.) \frac{3n^4}{3n^3} =$$

$$16.) \frac{2h^3j^3k^4}{3jk} =$$

$$17.) \frac{3x^3y^{-1}z^{-1}}{x^{-4}y^0z^0} =$$

Separate sheet

$$\begin{aligned}
 (14) \quad (2x^2)^{-4} &= (2^1 x^2)^{-4} = 2^{1 \cdot -4} x^{2 \cdot -4} \\
 &= 2^{-4} x^{-2} \quad * \text{ Cannot have negative exponent!} \\
 &= \frac{2^{-4} x^{-2}}{1} \\
 &= \frac{1}{2^4 x^2} \\
 &= \frac{1}{16x^2}
 \end{aligned}$$

$$(15) \quad \frac{3n^4}{3n^3} = \frac{\cancel{3}n^4}{\cancel{3}n^3} = n^{4-3} = \boxed{n}$$

$$\begin{aligned}
 (16) \quad \frac{2h^3 j^{-3} k^4}{3 j k^4} &= \frac{2h^3 \cancel{j^3} k^4}{3 j^3 \cancel{j} k^4} = \frac{2h^3 k^4}{3 j^3 j k^4} \\
 &= \frac{2h^3 k^4}{3 j^{3+1} k^4} \\
 &= \frac{2h^3 \boxed{k^4}}{3 j^4 \boxed{k^4}} = 1 \\
 &= \frac{2h^3}{3j^4}
 \end{aligned}$$

$$\begin{aligned}
 (17) \quad \frac{3x^3 y^{-1} z^{-1}}{x^{-4} y^0 z^0} &= \frac{3x^3 \cancel{y^{-1}} \cancel{z^{-1}}}{\cancel{x^{-4}} y^0 z^0} = \frac{3x^3 x^4}{y^1 z^1 y^0 z^0} = \frac{3x^{3+4}}{yz} \\
 &= \frac{3x^7}{yz}
 \end{aligned}$$