

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

Date: \_\_\_\_\_

**Learning Goal 6.2**

Solving equations, identifying any non-permissible values and extraneous roots.

**Assignment**

Solve the following rational equations. State any non – permissible values and/or extraneous roots.

$$\begin{aligned} \text{a. } \frac{1}{6k^2} &= \frac{1}{3k^2} - \frac{1}{k} \\ k &= \frac{1}{6} \end{aligned}$$

$$\begin{aligned} \text{c. } \frac{1}{6b^2} + \frac{1}{6b} &= \frac{1}{b^2} \\ b &= 5 \end{aligned}$$

$$\begin{aligned} \text{e. } \frac{1}{x} &= \frac{6}{5x} + 1 \\ x &= -\frac{1}{5} \end{aligned}$$

$$\begin{aligned} \text{g. } \frac{3}{m^2} &= \frac{m-4}{3m^2} + \frac{2}{3m^2} \\ m &= 11 \end{aligned}$$

$$\begin{aligned} \text{b. } \frac{1}{n^2} + \frac{1}{n} &= \frac{1}{2n^2} \\ n &= -\frac{1}{2} \end{aligned}$$

$$\begin{aligned} \text{d. } \frac{b+6}{4b^2} + \frac{3}{2b^2} &= \frac{b+4}{2b^2} \\ b &= 4 \end{aligned}$$

$$\begin{aligned} \text{f. } \frac{1}{6x^2} &= \frac{1}{2x} + \frac{7}{6x^2} \\ x &= -2 \end{aligned}$$

$$\begin{aligned} \text{h. } \frac{1}{n} &= \frac{1}{5n} - \frac{n-1}{5n} \\ n &= -3 \end{aligned}$$