Error Analysis Explain the error in the student's work at the right.

$\frac{3}{8}x - 1 = 4$

$3x - 1 = 32$

$3x = 33$

$x = 11$

They multiplied both sides by 8 but when they did this they forgot to multiply everything on both sides by 8. The third line should be:

3x - 8 = 32

Solving equations quiz

After your quiz solve these three equations

Find the exact solution to each equation:

2. $12 - \frac{11}{6}c = 42$

3. $\frac{19}{9} = -\frac{4}{9}W + \frac{34}{9}$

4. $\frac{8}{15}R - \frac{23}{15} = 10$

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2. $12 - \frac{11}{6}c = 42$

$-12 \quad -12$

$-6 \cdot -\frac{11}{6}c = 30(-6)$

$\frac{11c}{11} = \frac{-180}{11}$

$c = -\frac{180}{11}$

Alternative Method:

Multiply both sides of the equation by 6.

2. $6\left(12 - \frac{11}{6}c\right) = (42)6$

$72 - 11c = 252$

$-72 \quad -72$

$\frac{-11c}{-11} = \frac{+180}{-11}$

$c = \frac{180}{-11}$

3. $9\left(\frac{19}{9}\right) = \left(-\frac{4}{9}W + \frac{34}{9}\right)9$

$19 = -4w + 34$

$-34 \quad -34$

$\frac{-15}{-4} = \frac{-4w}{-4}$

$\frac{15}{4} = w$

4. $15\left(\frac{8}{15}R - \frac{23}{15}\right) = 10 \cdot 15$

$8R - 23 = 150$

$+23 \quad +23$

$8R = 173$

$R = \frac{173}{8}$

Solve.

Multiply both sides of the equation by the LCM of 5 and 3.

$15\left(\frac{2}{5}c - 2\right) = \left(\frac{7}{3}\right)15$

$6c - 30 = 35$

$+30 \quad +30$

$6c = 65$

$c = \frac{65}{6}$

Alternative Method

$\frac{2}{5}c - 2 = \frac{7}{3}$ Get all three terms to have the same denominator

$\left(\frac{6c}{15} - \frac{30}{15} = \frac{35}{15}\right)15$

$6c - 30 = 35$

$+30 \quad +30$

$6c = 65 \rightarrow c = \frac{65}{6}$

Solve.

$\left(\frac{5}{4}c - \frac{1}{6} = 3\right)12$

$15c - 2 = 36$

$+2 \quad +2$

$15c = 38$

$c = 38/15$