Solving Math 9 Equations Part 7

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Mathematics 9
Equation Solving
Solving Math 9 Equations Part 7

In some cases your answers to an equation may be too difficult to check without a calculator. In this case you will need to be very careful in solving but you will not be required to provide a check.

How to Solve Complex Equations

1. Get rid of all brackets first using Distributive Property.
2. Get rid of all fractions by multiplying the entire equation by the common denominator.
3. Combine any like terms on each side of the equation.
4. Use basic equation solving rules to solve for the variable.
5. Remember to use BEDMAS rules when doing the check.

A. Solve following equations. You do not need to provide a check.

1) $\frac{x+3}{5} = \frac{2x-6}{3}$

$\frac{x}{5} + \frac{3}{5} = \frac{2x}{3} - \frac{6}{3}$

$15\left[\frac{1}{5}x + \frac{3}{5} = \frac{2}{3}x - 2\right]$

$3x + 9 = 10x - 30$

$-10x \quad -10x$

$-7x + 9 = -30$

$-9 \quad -9$

$\frac{-7x}{-7} = \frac{-39}{-7}$

$x = \frac{39}{7}$ or $5\frac{4}{7}$

2) $\frac{2}{5}(2y-1)=\frac{1}{2}(y+3)$

10 $\left[\frac{4}{5}y-\frac{2}{5}=\frac{1}{2}y+\frac{3}{2}\right]$

$8y-4=5y+15$

$-5y \quad -5y$

$3y-4=15$

$+4 \quad +4$

$\frac{3y}{3}=\frac{19}{3}$

$y=\frac{19}{3}$ or $6\frac{1}{3}$

3) $3m+\frac{1}{2}(4m+1)-4=2+\frac{1}{4}(m-3)-4$

4 $\left[3m+2m+\frac{1}{2}-4=2+\frac{1}{4}m-\frac{3}{4}-4\right]$

$12m+8m+2-16=8+m-3-16$

$20m-14=m-11$

$-m \quad -m$

$19m-14=-11$

$+14 \quad +14$

$\frac{19m}{19}=\frac{3}{19}$

$m=\frac{3}{19}$

Assignment: Solving Math 9 Equations Part 7 Assignment

Name:_____

Solving Math 9 Equations Part 7 Assignment

Solve the following equations. You do not need to provide a check.

1. $5m+3=25-2m$

2. $\frac{1}{2}-\frac{1}{3}x-2=\frac{1}{2}x+1+\frac{1}{3}x$

3. $3(2a+3)+5=2a-9$

4. $\frac{1}{2}(3n-7)=\frac{2}{5}(3n-4)$

5. $\frac{2a+3}{3} = \frac{3a-5}{2}$

6. $\frac{1}{4}y + 2 - \frac{3}{4}y = \frac{1}{2} + 2y - \frac{1}{4}$

7. $5x + 9 = 13x - 11$

8. $\frac{3x}{10} - \frac{2x}{5} = \frac{3x}{2} + \frac{1}{2}$

9. $-\frac{m}{3}+\frac{m}{4}-\frac{m}{6}=\frac{1}{4}+m$

10. $\frac{1}{2}(x-3)+\frac{1}{3}(3+x)=\frac{1}{4}(x+1)$

Answers

1) $m = \frac{22}{7}$

2) $x = -\frac{15}{7}$

3) $a = -\frac{23}{4}$

4) $n = \frac{19}{3}$

5) $a = \frac{21}{5}$

6) $y = \frac{7}{10}$

7) $x = \frac{5}{2}$

8) $x = -\frac{5}{16}$

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

10) $x = \frac{9}{7}$