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

$$\frac{x}{5} + \frac{3}{5} = \frac{2}{3}x - \frac{6}{3}$$
15  $\begin{bmatrix} \frac{1}{5}x + \frac{3}{5} = \frac{2}{3}x - 2 \end{bmatrix}$ 

$$\frac{3}{5}x + 9 = \frac{10}{5}x - 30$$

$$-\frac{7}{5}x + 9 = -\frac{30}{7}$$

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

$$\frac{-\frac{7}{7}x}{\sqrt{3}} = \frac{39}{7}$$
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 - 5y + 15

3y - 4 = 15

+4 = 15

19 3 • 6 3

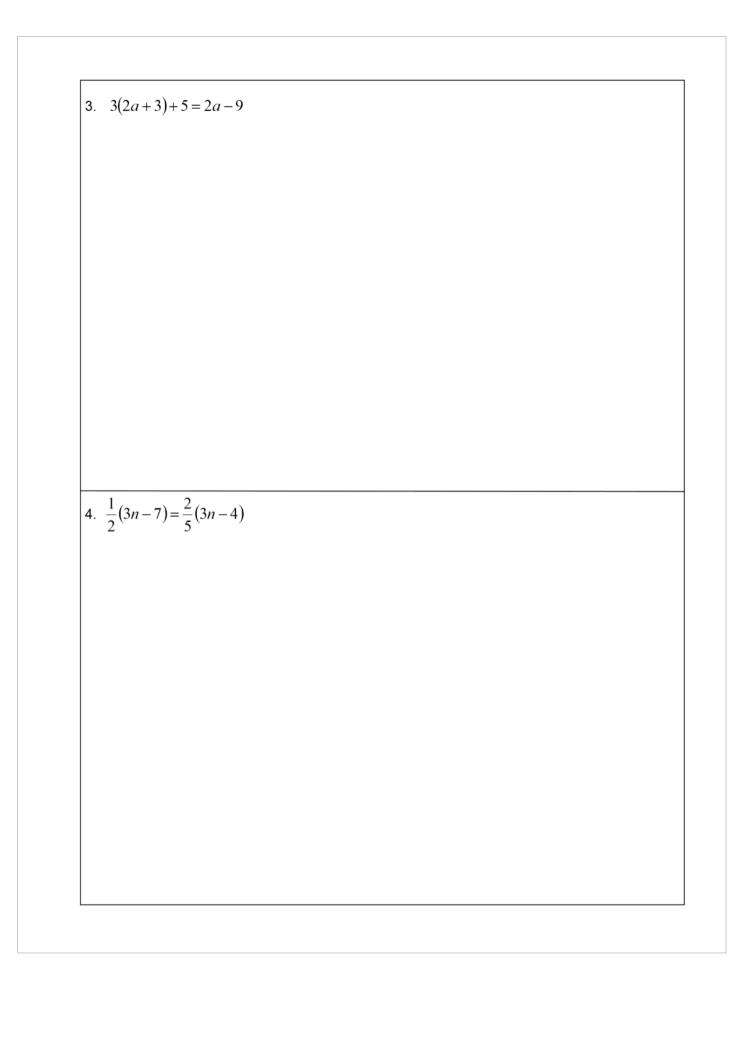
Assignment: Solving Math 9 Equations Part 7 Assignment

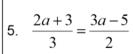
## Solving Math 9 Equations Part 7 Assignment

Solve the following equations. You do <u>not</u> need to provide a check.

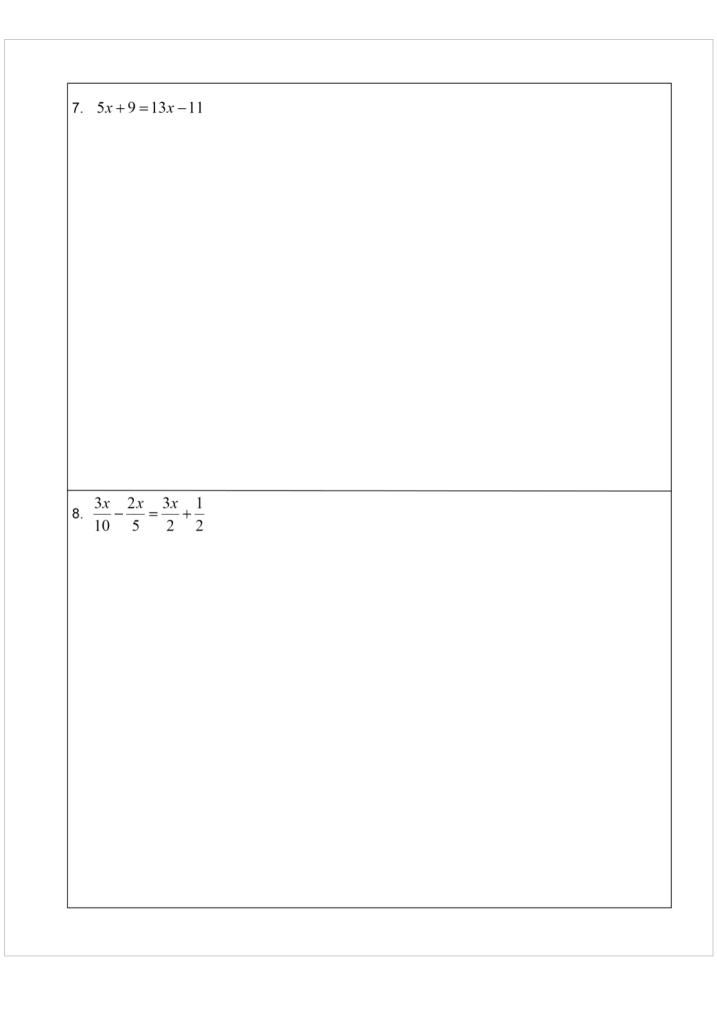
1. 
$$5m + 3 = 25 - 2m$$

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





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



$9.  -\frac{m}{3} + \frac{m}{4} - \frac{m}{6} = \frac{1}{4} + n$	n		
10. $\frac{1}{2}(x-3) + \frac{1}{3}(3+x) =$	$=\frac{1}{4}(x+1)$		

## **Answers**

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

1) 
$$m = \frac{22}{7}$$
 2)  $x = -\frac{15}{7}$ 

3) 
$$a = -\frac{23}{4}$$
 4)  $n = \frac{19}{3}$ 

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

5) 
$$a = \frac{21}{5}$$
 6)  $y = \frac{7}{10}$ 

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

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

7) 
$$x = \frac{5}{2}$$
 8)  $x = -\frac{5}{16}$ 

9) 
$$m = -\frac{1}{5}$$
 10)  $x = \frac{9}{7}$ 

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