

## Part 1. Sample Problems

1. Consider the equation  $2x^2 + x + 34 = 21x - 8$ .

- (a) Is the number 1 a solution of the equation? **no, since  $37 \neq 13$**
- (b) Is 3 a solution of the equation? **yes, since  $55 = 55$**
- (c) Is  $x = 4$  a solution of the equation? **no, since  $70 \neq 76$**
- (d) Is 7 a solution of the equation? **yes, since  $139 = 139$**

2. Consider the equation  $3a - 2b - 1 = (a - b)^2 + 4$ .

- (a) Is the pair of numbers  $a = 8$  and  $b = 5$  a solution of the equation? **yes, since  $13 = 13$**
- (b) Is the pair of numbers  $a = 10$  and  $b = 7$  a solution of the equation? **no, since  $15 \neq 13$**

## Part 2. Practice Problems

1. Consider the equation  $\frac{2x^2 - 11x - 21}{2x + 3} = 3x - (2x + 7)$ .

- (a) Is the number 8 a solution of the equation? **yes, since  $1 = 1$**
- (b) Is 13 a solution of the equation? **yes, since  $6 = 6$**
- (c) Is  $x = 10$  a solution of the equation? **yes, since  $3 = 3$**

2. Consider the equation  $y = \frac{5x - 3}{2}$ .

- (a) Is the pair of numbers  $x = 1$  and  $y = 1$  a solution of the equation? **yes, since  $1 = 1$**
- (b) Is the pair of numbers  $x = 9$  and  $y = 4$  a solution of the equation? **no, since  $21 \neq 4$**
- (c) Is the pair of numbers  $x = 3$  and  $y = 6$  a solution of the equation? **yes, since  $6 = 6$**
- (d) Is the pair of numbers  $x = 17$  and  $y = 41$  a solution of the equation? **yes, since  $41 = 41$**

3. Consider the equation  $(p - q)^2 + \frac{3p - 1}{6 - q} = 4(p + 1)$ .

- (a) Is the pair of numbers  $p = 8$  and  $q = 5$  a solution of the equation? **no, since  $32 \neq 36$**
- (b) Is the pair of numbers  $p = 7$  and  $q = 1$  a solution of the equation? **yes, since  $40 = 40$**