8th Grade Multi-Step Equations: Variables on Both Sides

Common Core 8.EE.C.7 Time: 25 min Total: 19 marks Two-sided: questions continue on the back

G8MSE1

NAME or INITIALS (BLOCK CAPITALS, one letter per box)

ANSWER KEY — not for students, do not scan

ANSWERS — write each final answer in its box. Only these boxes are marked.

1	$x = 5$	2	$x = 4$	3	$x = 5$
4	$x = 3$	5	$x = 5$	6	$x = 11$
7	$x = 4$	8	$x = 8$	9	$x = 10$
10	5				

1 Solve for x: **1 mark**

$$5x + 3 = 2x + 18$$

$x = 5$

answer in box 1 on the front

2 Solve for x: **1 mark**

$$7x - 4 = 3x + 12$$

$x = 4$

answer in box 2 on the front

3 Solve for x: **1 mark**

$$2x + 9 = 5x - 6$$

$x = 5$

answer in box 3 on the front

4 Solve for x: **2 marks**

$$4(x + 1) = 2x + 10$$

$x = 3$

answer in box 4 on the front

Questions continue on the back. Only the answer boxes above are marked.

5 Solve for x: **2 marks**

$$3(2x - 1) = 4x + 7$$

$x = 5$

answer in box 5 on the front

6 Solve for x: **2 marks**

$$5(x - 2) = 3(x + 4)$$

$x = 11$

answer in box 6 on the front

7 Solve for x: **2 marks**

$$2(3x + 1) - 4 = 4x + 6$$

$x = 4$

answer in box 7 on the front

8 Solve for x: **2 marks**

$$\frac{x}{2} + 3 = \frac{x}{4} + 5$$

$x = 8$

answer in box 8 on the front

9 Solve for x: **3 marks**

$$\frac{2x + 1}{3} = \frac{x + 4}{2}$$

$x = 10$

answer in box 9 on the front

10 Gym A charges \$20 a month plus \$5 for each class. Gym B charges \$35 a month plus \$2 for each class. For how many classes in a month do the two gyms cost the same? **3 marks**

5

answer in box 10 on the front