



New York State Testing Program

Mathematics Test

Grade **8**

2009 Scoring Guide Part 1

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

Answer $p =$ _____

Check your answer.

Show your work.

QUESTION 32

STRAND 2: ALGEBRA

Complete and Correct Response:

- $3(p + 6) = 5p + 4$
 $3p + 18 = 5p + 4$
 $18 = 2p + 4$
 $14 = 2p$
 $7 = p$

OR other valid process

AND

- 7

AND

- $3p + 18 = 5p + 4$
 $3(7) + 18 = 5(7) + 4$
 $21 + 18 = 35 + 4$
 $39 = 39$

OR other valid process

Score Points:

Apply 3-point holistic rubric.

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{aligned} 3(p + 6) &= 5p + 4 \\ 3p + 18 &= 5p + 4 \\ 3p - 5p &= 4 - 18 \\ -2p &= -14 \end{aligned}$$

$$-2p = -14$$

$$p = \frac{-14}{-2}$$

$$p = 7$$

Answer $p = \underline{\quad 7 \quad}$

Check your answer.

Show your work.

$$\begin{aligned} 3(p + 6) &= 5p + 4 \\ 3(7 + 6) &= 5 \times 7 + 4 \\ 21 + 18 &= 5 \times 7 + 4 \\ 39 &= 35 + 4 \\ 39 &= 39 \end{aligned}$$

This response is complete and correct.

Score Point 3

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{aligned} 3p + 18 &= 5p + 4 \\ 14 &= 2p \\ 7 &= p \end{aligned}$$

Answer $p = \underline{\quad 7 \quad}$

Check your answer.

Show your work.

$$\begin{aligned} 3(p + 6) &= 5p + 4 \\ 3(7 + 6) &= 5(7) + 4 \\ 21 + 18 &= 35 + 4 \\ 39 &= 39 \end{aligned}$$

This response is complete and correct. The work provided in solving the equation is adequate to demonstrate a thorough understanding of the task.

Score Point 3

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$3(p+6) = 5p+4$$

$$\begin{array}{r} 3p+18 = 5p+4 \\ -3p \quad -3p \end{array}$$

$$\hline \begin{array}{r} 18 = 2p+4 \\ 4 \quad -4 \end{array}$$

$$\hline \begin{array}{r} 14 = 2p \\ \frac{14}{2} = \frac{2p}{2} \end{array}$$

$$\hline 7 = p$$

Answer $p = \underline{7}$

Check your answer.

Show your work.

This response is partially correct. A sound mathematical procedure and correct answer are provided; however, the remaining work in checking the answer is missing.

Score Point 2

- 32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{array}{r} 3p + 16 = 5p + 4 \\ -3p \quad -3p \\ \hline 16 = 2p + 4 \\ -4 \quad -4 \\ \hline 12 = 2p \\ \frac{12}{2} = \frac{2p}{2} \end{array}$$

Answer $p = \underline{6}$ $6 = p$

Check your answer.

Show your work.

$$\begin{array}{l} \underline{CK} \\ 3(p+6) = 5p+4 \\ 3(6+6) = 5(6)+4 \\ 3(12) = 30+4 \\ 3 \cdot 4 = 34 \end{array}$$

This response is partially correct. A sound procedure for solving the equation and checking the answer are demonstrated; however, a calculation error results in an incorrect answer. The calculation error in the work for the check does not detract from a partial understanding of the task.

Score Point 2

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{array}{r} 3p + 18 = 5p + 4 \\ -5 -5 \\ \hline -2 + 18 = +4 \\ -18 -18 \\ \hline 7 - \frac{2p}{7} = -\frac{14}{7} \end{array}$$

Answer $p =$ _____

Check your answer.

Show your work.

This response demonstrates a limited understanding of the mathematical concepts embodied in the task. A correct numerical answer is provided; however, the work provided to arrive at the answer contains incorrect mathematical statements. In addition to this, the work for the check is missing.

Score Point 1

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$3(p+6)$$
$$8p + 22 \quad 3p + 18 = 5p + 4$$

Answer $p = \frac{8p + 22}{8} = 2.75$

Check your answer.

$$\frac{8p + 22}{8}$$

Show your work.

This response is incorrect. Although the work may contain some correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the task. The correct initial step of applying the distributive property, by itself, is not sufficient.

Score Point 0



New York State Testing Program

Mathematics Test

Grade **8**

2009 Practice Test

32Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{aligned} 3p + 18 &= 5p + 4 \\ 5p + 4 &= 3p + 18 \\ -3p & \quad -3p \\ 2p + 4 &= 18 \\ -4 & \quad -4 \\ 2p &= 14 \\ \frac{2p}{2} &= \frac{14}{2} \\ p &= 7 \end{aligned}$$

Answer $p = \underline{7}$

$$\begin{array}{r} 3 \\ 18 \\ \hline 54 \end{array}$$

Check your answer.

Show your work.

$$\begin{aligned} 3(7) &= 3 \cdot 7 = 21 + 18 = 39 \\ 3 \cdot 18 &= 54 \\ 39 &= 5 \cdot 7 = 35 + 4 = 39 \\ 39 &= 39 \checkmark \end{aligned}$$

32Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{array}{r} 3p + 18 = 5p + 4 \\ -3p \quad -3p \\ \hline 18 = 2p + 4 \\ -4 \quad -4 \\ \hline \end{array}$$

Answer $p = \underline{\quad 7 \quad}$

$$\begin{array}{r} 14 = 2p \\ 2 \quad 2 \\ \hline p = 7 \end{array}$$

Check your answer.

Show your work.

$$\begin{array}{r} 3(7+6) = 5(7) + 4 \\ 39 = 39 \end{array}$$

32 Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$3(p+6) = 5p+4$$

$$3p+6 = 5p+4$$

$$\begin{array}{r} -3p \\ \hline 6 = 2p+4 \end{array}$$

$$\begin{array}{r} -4 \\ \hline 2 = 2p \end{array}$$

$$\frac{2}{2} = \frac{2p}{2}$$

$$2p = 1$$

Answer $p = \underline{\quad 1 \quad}$

Check your answer.

Show your work.

32Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$3(p+6) = 5p+4$$

$$\frac{4p}{4p} \quad \frac{4p}{4p} = \frac{4p}{4p} ?$$

Answer $p = \underline{\quad 7 \quad}$

Check your answer.

Show your work.

$$3(p+6) = 5p+4$$

$$3(7+6) = 5 \cdot 7 + 4$$

$$3(13) = 35 + 4$$

$$39 \mid 39 \quad \checkmark$$

32Solve the equation below for p .

$$3(p + 6) = 5p + 4$$

Show your work.

$$\begin{array}{r} 3p + 18 = 5p + 4 \\ -3p \quad -3p \\ \hline 18 = 2p + 4 \\ -4 \quad -4 \\ \hline 14 = 2p \\ p = 7 \end{array}$$

Answer $p = \underline{\quad 7 \quad}$

Check your answer.

Show your work.

$$\begin{aligned} 18 &= 2(p) + 4 \\ 18 &= 2(7) + 4 \\ 18 &= 14 + 4 \\ 18 &= 18 \end{aligned}$$

8th GRADE MATHEMATICS

Name: _____

PRACTICE SET ANSWER KEY

PS 1	(0-2)	1
PS 2	(0-2)	1
PS 3	(0-2)	0
PS 4	(0-2)	1
PS 5	(0-2)	2
PS 6	(0-2)	2
PS 7	(0-2)	0
PS 8	(0-2)	2
PS 9	(0-2)	1
PS 10	(0-2)	2
PS 11	(0-2)	2
PS 12	(0-2)	0
PS 13	(0-2)	1
PS 14	(0-2)	1
PS 15	(0-2)	2
PS 16	(0-2)	2
PS 17	(0-2)	1
PS 18	(0-2)	0
PS 19	(0-2)	2
PS 20	(0-2)	1
PS 21	(0-3)	2
PS 22	(0-3)	3
PS 23	(0-3)	0
PS 24	(0-3)	1
PS 25	(0-3)	2

PS 26	(0-3)	3
PS 27	(0-3)	1
PS 28	(0-3)	0
PS 29	(0-3)	1
PS 30	(0-3)	2
PS 31	(0-2)	1
PS 32	(0-2)	0
PS 33	(0-2)	2
PS 34	(0-2)	2
PS 35	(0-2)	1
PS 36	(0-2)	1
PS 37	(0-2)	2
PS 38	(0-2)	1
PS 39	(0-2)	1
PS 40	(0-2)	2
PS 41	(0-2)	1
PS 42	(0-2)	0
PS 43	(0-2)	2
PS 44	(0-2)	2
PS 45	(0-2)	1
PS 46	(0-2)	0
PS 47	(0-2)	2
PS 48	(0-2)	1
PS 49	(0-2)	2
PS 50	(0-2)	1

