

Grade 5 Mathematics Paper-Based Practice Test Answer Key

The following pages include the answer key for all machine-scored items, followed by rubrics for the hand-scored items. The rubrics also show sample student responses; other valid methods for solving the problem can earn full credit unless a specific method is required by the item. In items where the scores are awarded for full and partial credit, students can still earn points for reasoning or modeling even if they make a computation error.

Session 1

Item Number	Item Type	Answer Key	Number of Points	Standard
1	SR	A	1	5.NBT.A.3
2	SR	D	1	5.NF.A.1
3	SR	C	1	5.MD.B.2
4	SR	Part A: D Part B: A	2	5.G.A.2
5	SR	A, E	1	5.NF.B.5
6	SR	B	1	5.OA.A.2

Session 2

Item Number	Item Type	Answer Key	Number of Points	Standard
7	SR	A, D, E	1	5.NF.B.5
8	SA	180	1	5.MD.C.5
9	SR	C	1	5.NF.B.4
10	SR	A, D, F	1	5.NBT.A.4
11	SR	A, E	1	5.MD.A.1
12	CR	<i>See Rubric</i>	4	5.NF.B.4

Rubric is on the next page.

Scoring Guide	
Score	Description
4	The student response demonstrates an exemplary understanding of the Numbers and Operations—Fractions concepts involved in applying and extending previous understandings of multiplication to multiply a fraction or whole number by a fraction. The student correctly finds the product of a mixed number and a fraction, writes an equation, and finds area using mixed numbers and fractions.
3	The student response demonstrates a good understanding of the Numbers and Operations—Fractions concepts involved in applying and extending previous understandings of multiplication to multiply a fraction or whole number by a fraction. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Numbers and Operations—Fractions concepts involved in applying and extending previous understandings of multiplication to multiply a fraction or whole number by a fraction. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Numbers and Operations—Fractions concepts involved in applying and extending previous understandings of multiplication to multiply a fraction or whole number by a fraction.
0	The student response contains insufficient evidence of an understanding of the Numbers and Operations—Fractions concepts involved in applying and extending previous understandings of multiplication to multiply a fraction or whole number by a fraction. As a result, the response does not merit any points.

Sample Response:

a. 3 (feet)

b. $4\frac{1}{2} \times 3 = s$

c. $13\frac{1}{2}$ (square feet) or equivalent, $4\frac{1}{2} \times 3 = s$, $\frac{9}{2} \times \frac{3}{1} = \frac{27}{2}$, $\frac{27}{2} = 13\frac{1}{2}$

d. 9 (square feet), $\frac{2}{3} \times 13\frac{1}{2} = \frac{2}{3} \times \frac{27}{2}$, $\frac{2}{3} \times \frac{27}{2} = \frac{54}{6}$, $\frac{54}{6} = 9$