

Lesson 4 Skills Practice

Proportional and Nonproportional Relationships

For Exercises 1–3, use the table of values. Write the ratios in the table to show the relationship between each set of values.

1.

Number of Hours	1	2	3	4
Total Amount Earned	\$15	\$30	\$45	\$60
Ratios	$\frac{15}{1}$ or 15	$\frac{30}{2}$ or 15	$\frac{45}{3}$ or 15	$\frac{60}{4}$ or 15

2.

Number of Packages	1	2	3	4
Total Cost	\$11	\$20	\$29	\$38
Ratios	$\frac{11}{1}$ or 11	$\frac{20}{2}$ or 10	$\frac{29}{3}$ or 9.67	$\frac{38}{4}$ or 9.5

3.

Number of Classrooms	1	2	3	4
Total Students	24	48	72	92
Ratios	$\frac{24}{1}$ or 24	$\frac{48}{2}$ or 24	$\frac{72}{3}$ or 24	$\frac{92}{4}$ or 23

For Exercises 4–8 use the table of values. Write *proportional* or *nonproportional*.

4.

Number of Hours	1	2	3	4
Total Amount Earned	\$0.99	\$1.98	\$2.97	\$3.96

proportional

5.

Number of Hours	1	2	3	4
Total Amount Earned	\$17.25	\$35.50	\$50.75	\$70

nonproportional

6.

Number of Hours	1	2	3	4
Number of Pages Read in Book	37	73	109	145

nonproportional

7.

Number of Lunches	1	2	3	4
Total Cost	\$2.75	\$5.50	\$8.25	\$11

proportional

8. Fred is ordering pies for a family reunion. Each pie costs \$4.50. For orders smaller than a dozen pies, there is a \$5 delivery charge. Is the cost proportional to the number of pies ordered? Use a table of values to explain your reasoning.

Number of Pies	1	2	3	4
Total Cost	\$9.50	\$14.00	\$18.50	\$23.00

$$\frac{\text{Total Cost}}{\text{Number of Pies}} \rightarrow \frac{9.50}{1} \neq \frac{14.00}{2} \quad \text{nonproportional}$$