

Name: _____ Date: _____

Simple Vs Compound Growth

GRADE 8

MATHEMATICS

F1.4

Use clear formulas or reasoning for each interval and explain what compounding changes over time.

PART A: INTEREST BASICS

1. Simple interest on \$200 at 5% for one interval is \$_____.
2. With simple interest, after 3 intervals at 5% on \$200, total interest is \$_____.
3. Compound growth at 5% on \$200 gives interval-1 balance \$_____.
4. Compound growth at 5% on \$200 gives interval-2 balance \$_____.
5. Simple interest on \$150 at 2% for one interval is \$_____.
6. Compound growth at 10% on \$100 gives interval-1 balance \$_____.

PART B: COMPARE GROWTH PATHS

7. Start with \$300 at 5% for 4 intervals. Find ending balance with simple interest and with compound interest.

SHOW YOUR WORK

Answer: _____

8. A student says simple and compound interest are basically the same for long-term plans. Use one numerical example to agree or disagree.

SHOW YOUR WORK

Answer: _____

9. Rate comparison on \$250 for 6 intervals: 2%, 5%, and 10% compound. Which plan grows fastest and why?

SHOW YOUR WORK

Answer: _____

PART C: PLANNING REFLECTION

10. Write a short recommendation to a classmate choosing between two savings plans with different interest rules. Include at least one numeric comparison.

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ANSWER KEY

1. \$10
2. \$30
3. \$210.00
4. \$220.50
5. \$3.00
6. \$110.00
7. Simple: \$360.00 (adds \$15 each interval). Compound: \$364.65 (300×1.05^4).
8. Disagree. Compound grows faster because interest is earned on prior interest; gap increases over more intervals.
9. 10% grows fastest because each interval applies a larger multiplier to an increasing balance.
10. Answers vary. Must reference a numeric comparison and explain the long-term effect of compounding.

TEACHER NOTES

Use spreadsheet checks after mental estimates so students see both exact values and growth patterns over multiple intervals.