

Grade 7, Level 2

The table shows the proportional relationship between megabytes and gigabytes of data.

Megabytes	Gigabytes
100	0.098
10,000	9.8
1,000,000	980
100,000,000	98,000

How many gigabytes is 1 megabyte equal to?

- 0.00098
- 0.0098
- 102.0
- 1,020.4

Correct Answer: 0.00098

Aligned to: Claim 1, Target A / Analyze proportional relationships and use them to solve real-world and mathematical problems.

Students solve real-world and mathematical problems involving proportional relationships. Students who score at Level 2 are more likely to successfully find the unit rate from information presented in a table.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
62.7%	13.7%	57.4%	85.8%	97.4%

Grade 7, Level 2

Mr. Palmer is buying art supplies for his students. He has 160 students and each one needs a paintbrush. He has 24 brushes left over from last year, and paintbrushes are sold in packs of 3. Which equation can Mr. Palmer use to find how many packs, p , of paintbrushes he needs to buy?

- $3p + 24 = 160$
- $3p - 24 = 160$
- $24p + 3 = 160$
- $24p - 3 = 160$

Correct Answer: $3p + 24 = 160$

Aligned to: Claim 1, Target D / Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Students write and solve expressions and equations in mathematical problems and real-world problems. Students who score at Level 2 are more likely to successfully write an equation that represents a real-world situation.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
65.5%	16.0%	60.8%	87.1%	97.6%

Grade 7, Level 3

A coach is ordering a jersey for each of the 11 players on a team. Each jersey costs \$45. The delivery fee is \$1.50 per pound. Each jersey weighs $\frac{1}{2}$ pound. What is the total cost of the order?

- \$371.25
- \$496.50
- \$503.25
- \$511.50

Correct Answer: \$503.25

Aligned to: Claim 1, Target B / Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Students add, subtract, multiply, and divide rational numbers in mathematical and real-world problems. Students who score at Level 3 are more likely to successfully solve real-world problems involving computation with rational numbers represented in different forms.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
57.8%	5.2%	49.9%	88.4%	98.9%

Grade 7, Level 3

Becca, a seventh-grade student, wants to estimate the percentage of students in her middle school who have cellphones. Whom should Becca sample?

- Thirty seventh-grade students.
- Thirty middle school students.
- Thirty seventh-grade students who have cellphones.
- Thirty middle school students who have cellphones.

Correct Answer: Thirty middle school students.

Aligned to: Claim 1, Target G / Use random sampling to draw inferences about a population.

Students relate the relevance of statistics to surveying a representative random sample. Students who score at Level 3 are more likely to successfully identify a random sample of a population from which they could gather information.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
59.7%	10.2%	53.5%	85.5%	97.7%

Grade 7, Level 4

A proportional relationship is shown in this table.

x	2	4	6	8
y	6	12	18	24

Which tables show the same proportional relationship? Select all that apply.

x	30	50	70	90
y	90	150	210	270

x	5	6	11	12
y	8	18	14	15

x	0	1	2	3
y	3	4	5	6

x	0	2	3	4
y	0	4	6	8

x	$\frac{1}{4}$	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{1}{12}$
y	$\frac{3}{4}$	$\frac{9}{10}$	$\frac{6}{5}$	$\frac{1}{4}$

Correct Answers:

x	30	50	70	90
y	90	150	210	270

x	$\frac{1}{4}$	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{1}{12}$
y	$\frac{3}{4}$	$\frac{9}{10}$	$\frac{6}{5}$	$\frac{1}{4}$

Aligned to: Claim 1, Target A / Analyze proportional relationships and use them to solve real-world and mathematical problems.

Students solve real-world and mathematical problems involving proportional relationships. Students who score at Level 4 are more likely to successfully compare proportional relationships presented in a table.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
34.1%	4.5%	25.2%	57.5%	87.9%

Grade 7, Level 4

What is $\frac{4}{7}(1.5 - 3\frac{1}{2})$?

- $-1\frac{1}{7}$
- $-1\frac{3}{7}$
- $-2\frac{4}{7}$
- $-2\frac{9}{14}$

Correct Answer: $-1\frac{1}{7}$

Aligned to: Claim 1, Target D / Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Students write and solve expressions and equations in mathematical problems and real-world problems. Students who score at Level 4 are more likely to successfully solve mathematical problems by simplifying an expression with different forms of rational numbers.

Overall Difficulty	Level 1 % Correct	Level 2 % Correct	Level 3 % Correct	Level 4 % Correct
29.1%	2.7%	19.5%	52.4%	87.3%