

Mathematics—Sample Content

Levels 12 through 13



SAY Ahmad picks two containers of plums at an orchard. Ahmad puts 24 plums in the first container. Ahmad puts 19 plums in the second container. Ahmad eats 4 plums on the way home. How many plums does Ahmad have when he gets home? Mark your answer.

- 29
- 37
- 39
- 47

This item assesses:

M.11.2 – Demonstrate proficiency in computation procedures, solve real-world computation problems, apply a variety of estimation strategies, and determine reasonableness of results: computation

Thinking Skill – Organize Information—Represent: change for, but not substance, of information

2.OA.1 – Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem

NO CALCULATOR

In a race, $\frac{1}{3}$ of the people running finished in less than 10 minutes. Which two fractions also show the fraction of people in the race who finished in less than 10 minutes?

- $\frac{1}{10}$
- $\frac{2}{6}$
- $\frac{3}{5}$
- $\frac{3}{9}$
- $\frac{5}{12}$

This item assesses:

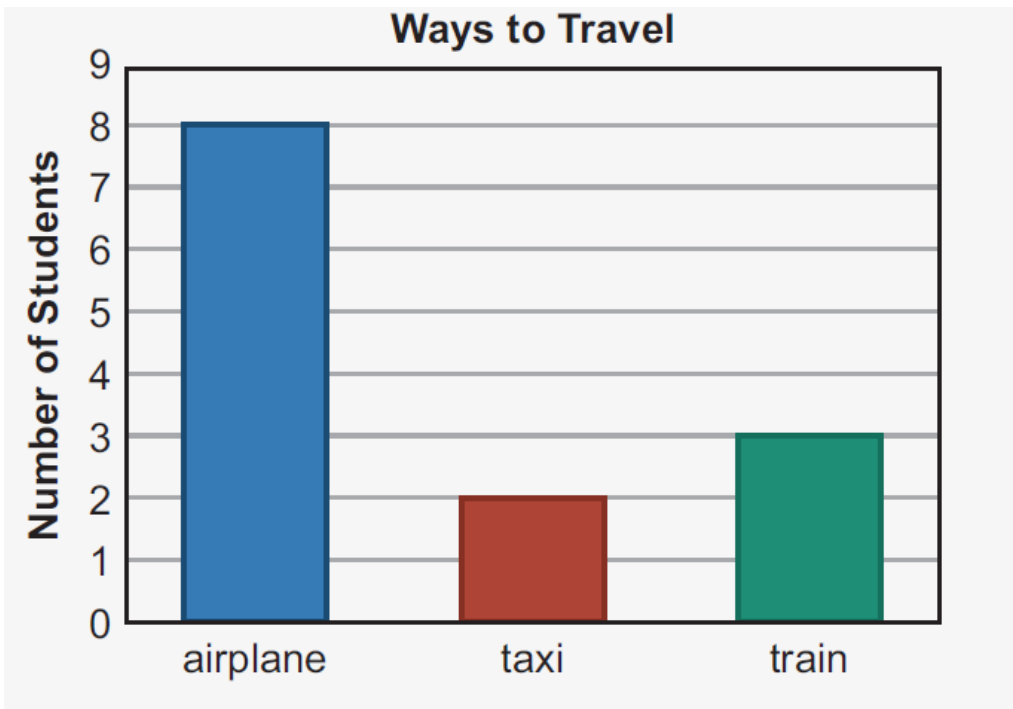
M.10.8 – Demonstrate an understanding of numbers, number sense, and number theory by ordering numbers, representing numbers in equivalent forms, identifying relationships, interpreting numbers in real-world situations, and applying number concepts in real-world situations: equivalent forms

Thinking Skill – Organize Information—Represent: change for, but not substance, of information

3.NF.3b – Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

NO CALCULATOR

SAY Theo asks some people if they have ever traveled by airplane, taxi, or train. His results are shown in the bar graph. How many more people have traveled by airplane than by train? Mark your answer.



- 3
- 4
- 5
- 6

This item assesses:

M.15.3 – Analyze, interpret, and evaluate data in various forms; apply the concepts and processes of data analysis, statistics, and probability to real-world situations: read bar graph.

Thinking Skill – Organize Information—Compare: note similarities and differences

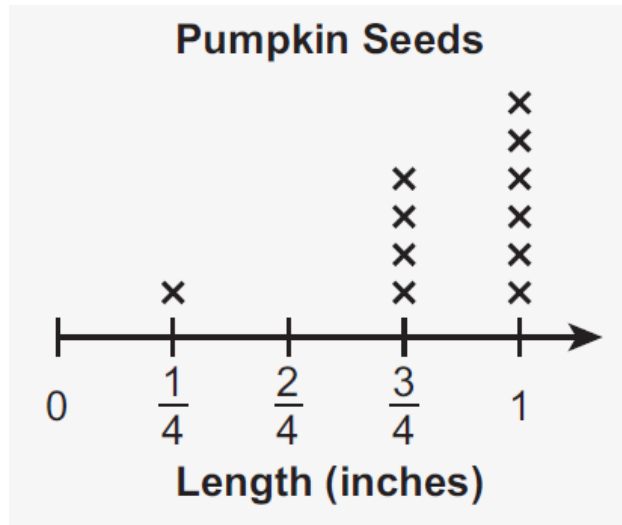
2.MD.10 – Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

NO CALCULATOR

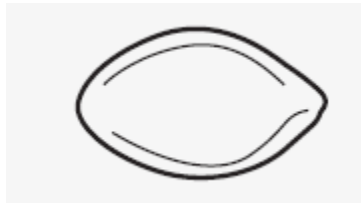


Use the inches ruler to help you solve this problem.

Jerry measures the lengths of some pumpkin seeds to the nearest quarter inch. He makes a line plot to show the lengths.



Jerry measures one more pumpkin seed.



Where should Jerry put an X in his line plot to show the length of the last pumpkin seed?

- in the column labeled $\frac{1}{4}$
- in the column labeled $\frac{2}{4}$
- in the column labeled $\frac{3}{4}$
- in the column labeled 1

This item assesses:

M.13.20 – Demonstrate an understanding of measurement systems, units, and tools by describing, calculating, or estimating size, location, and time; by using the concepts of perimeter, area, volume, capacity, weight, and mass; and by identifying appropriate degrees of accuracy: use ruler

Thinking Skill – Generate Ideas—Restructure: change existing structures to incorporate new information and insights

3.MD.4 – Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

CALCULATOR