LESSON MAKER PRO

Percent Model Quest

Read models, estimate amounts, and find exact percents.

GRADE 6 · 6.NS.1.a

6.NS.1.a "Estimate and determine the percent represented by a given model (e.g., number line, picture, verbal description), including percents greater than 100% and less than 1%.*"

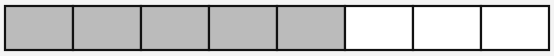
NAME _____ DATE _____

PARTS AS PERCENTS

To find a percent, write the part compared with one whole, then change it to an amount out of 100. One whole is 100%, so more than one whole is greater than 100%, and a very small part can be less than 1%. For example, 1 shaded part out of 4 equal parts is 1/4, or 25%.

WORKED EXAMPLE

What percent of the bar is shaded?

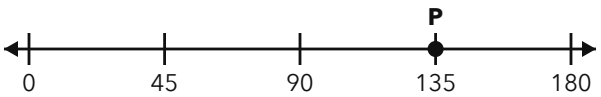


1. The bar has 8 equal parts.
2. 5 parts are shaded, so write 5/8.
3. 5/8 = 0.625.
4. Convert the decimal to a percent: 0.625 × 100% = 62.5%.

Answer: 62.5%

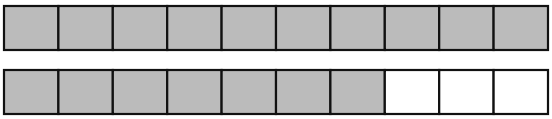
PRACTICE 6 problems

1 Estimate the percent at point P. Then write the exact percent.



ANSWER _____

2 The bars show shaded parts compared with one complete bar as one whole. What percent is shaded? Explain why the percent is greater than 100%.



ANSWER _____

_____

3 A science club says that 3 out of every 500 soil samples had a certain mineral. Is this percent closer to 0%, 1%, or 10%? Then determine the exact percent.

ANSWER _____

_____

4 A streaming playlist has 9 downloaded episodes out of 20 episodes. What percent of the playlist is downloaded?

ANSWER _____

5 The school garden has 30 pepper plants. Exactly 27 of these plants each had at least one ripe pepper. What percent of the plants had a ripe pepper?

ANSWER _____

6 A skateboard trick video got a thumbs-up from 11/16 of its viewers. What percent of viewers gave a thumbs-up?

ANSWER _____

APPLY IT Show your work

1 A student council team set a goal of collecting talent-show sign-ups. Use the table to find the percent of its goal that the team reached.

TALENT-SHOW SIGN-UPS

Goal	Sign-Ups Collected
80	100

ANSWER _____

2 In a video game, 3 of 800 treasure chests contain a rare badge. What percent of the chests contain the rare badge? Is the percent less than 1%?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two podcast clubs tracked completed episodes compared with their goals. Find each club's percent of goal. Then explain why Club B's percent can be greater than 100%.

PODCAST EPISODE PROGRESS

Club	Goal	Episodes Completed
A	32	20
B	24	36

WORK SPACE AND ANSWER

ANSWER KEY

Percent Model Quest

GRADE 6 · 6.NS.1.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate the percent at point P. Then write the exact percent.	**Estimate: about 135%. Exact: 135%.**
2	The bars show shaded parts compared with one complete bar as one whole. What percent is shaded? Explain why the percent is greater than 100%.	**170%; 17 shaded parts equal 1.7 whole bars, so the amount is greater than 100%.**
3	A science club says that 3 out of every 500 soil samples had a certain mineral. Is this percent closer to 0%, 1%, or 10%? Then determine the exact percent.	**Closer to 1%; 0.6%.**
4	A streaming playlist has 9 downloaded episodes out of 20 episodes. What percent of the playlist is downloaded?	**45%**
5	The school garden has 30 pepper plants. Exactly 27 of these plants each had at least one ripe pepper. What percent of the plants had a ripe pepper?	**90%**
6	A skateboard trick video got a thumbs-up from 11/16 of its viewers. What percent of viewers gave a thumbs-up?	**68.75%**

PART 2 · APPLY IT

1. **125%** Divide 100 by 80 to get 1.25. Change 1.25 to 125%.
2. **0.375%; yes** Compute 3/800 x 100 = 3/8 = 0.375. Since 0.375 is less than 1, the percent is less than 1%.

CHALLENGE

Club A: 62.5%. Club B: 150%. Club B completed 36 episodes, which is 1.5 times its goal of 24 episodes.

Accept equivalent fraction or decimal work that leads to the stated percents. For estimates, accept reasonable values near 135% in problem 1, followed by the exact value of 135%.