

Calculating Percent Change and Percent Error

Grade 7 math · Worksheet · Standards: 7.RP.A.3

Name: _____ Date: _____ Class: _____

These 20 problems cover percent increase and decrease, finding an original amount, percent error and comparing growth, all from standard 7.RP.A.3.

Always name the starting (or actual) value before dividing. Early problems use one step; later problems chain changes, compare two situations or work backward from a final price.

Standards: 7.RP.A.3 · **Level:** Grade 7

Problem 1 Movie Ticket Increase (easy)

The price of a movie ticket rose from \$12.00 to \$15.60. Find the percent increase.



Old price and the increase.

Problem 2 Score Decrease (easy)

A player's score dropped from 250 points to 200 points. Find the percent decrease.

Problem 3 Class Growth (easy)

A drama class has 40 students. Next year enrollment will increase by 15%. How many students will there be?

Problem 4 Bike Price Reduction (easy)

A bike costs \$320. The price is reduced by 12.5%. What is the new price?

Problem 5 Measuring a Board (easy)

Kai measures a board as 48 cm. Its actual length is 50 cm. Find the percent error.

Problem 6 Town Population (easy)

A town's population grew from 6,000 to 6,300. Find the percent increase.

Problem 7 Pay Before the Raise (medium)

After a 20% raise, a worker's weekly pay is \$540. What was the pay before the raise?

Problem 8 Jacket Before the Sale (medium)

A jacket is on sale for \$84 after a 30% discount. What was the original price?

Problem 9 Percent Error on a Number Line (medium)

A student measured a value as 12.1, but the actual value is 12.5. Find the percent error.



Measured and actual values for Problem 9.

Problem 10 Down Then Up (medium)

A stock priced at \$80 falls 25%, then rises 25%. What is its final price, and what is the overall percent change?

Problem 11 Which Plant Grew More (medium)

Plant A grew from 8 inches to 11 inches. Plant B grew from 20 inches to 26 inches. Which plant had the greater percent growth? Which grew more inches?

Problem 12 Monthly Sales Changes (medium)

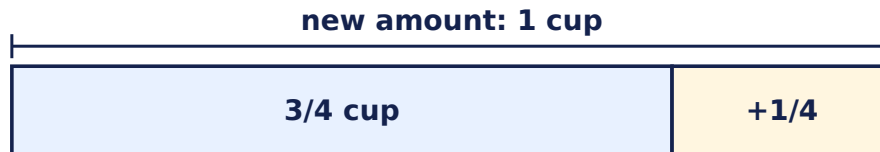
Find the percent change from January to February, from February to March, and from January to March.

Month	Jan	Feb	Mar
Sales	1,250	1,500	1,350

Monthly sales for Problem 12.

Problem 13 Recipe with Fractions (medium)

A recipe is changed from $\frac{3}{4}$ cup of oil to 1 cup. Find the percent increase.



Old amount and the increase.

Problem 14 Attendance Estimate (medium)

Organizers estimated 1,800 people for a fair. Actual attendance was 2,025. Find the percent error of the estimate, to the nearest tenth of a percent.

Problem 15 Population Over Two Years (hard)

A town had 25,000 residents. Its population grew 12% in the first year and then dropped 5% in the second year. Find the population after two years and the overall percent change.

Problem 16 Sofa Price Round Trip (hard)

A sofa's price rose 15% to \$690. The store later discounted that price by 15%. Find the original price, the discounted price, and the percent change from the original price to the discounted price.

Problem 17 Lab Scale Tolerance (hard)

A lab scale reads 252 g for a 245 g reference mass. (a) Find the percent error to the nearest tenth. (b) The scale must be within 3% of the actual mass. Is it? (c) Would a reading of 253 g be acceptable?

Problem 18 Video Views Growth (hard)

A video's views grew from 12,500 to 18,750 in its second month. Find the percent increase. If

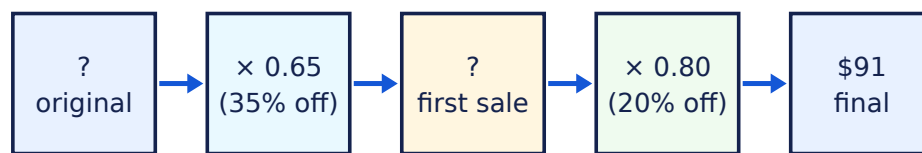
views grow by the same percent in the third month, how many views will it have?

Problem 19 Two Price Cuts Compared (hard)

Store A cuts a price from \$80 to \$62. Store B cuts a price from \$120 to \$96. Which store has the greater percent decrease? Which cut is larger in dollars?

Problem 20 Skis After Two Discounts (hard)

A pair of skis was discounted 35%, and then the sale price was discounted another 20%. The final price is \$91. Find the original price and the total percent discount.



Two discounts, final price known.