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Percent Change: Starting with 100 is Easy

CPC 1

Instructions: For each problem, calculate the difference between the original amount and the new amount. Then express that change as a percent change. Remember it's easy when you start with 100.
Note: See the Integer Arithmetic section if you need help with negative numbers.

	original	new	difference (change)	percent change
1	100	105	105 – 100 = +5	5% increase
2	100	90	90 – 100 = -10	10% decrease
3	100	132		
4	100	170		
5	100	25		
6	100	0		
7	100	155		
8	100	10		
9	100	200		
10	100	400		

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The Percent Change Formula - Part 1

CPC 2

Instructions: The basic formula for percent change is shown below. Use it to solve these problems. You may want to use a calculator for the division. Round answers to a tenth of a percent if necessary.

$$\%\ \text{change} = \frac{\text{change}}{\text{original}} \times 100$$

1 original: 20
change: +5

$\%\ \text{change} = \frac{+5}{20} \times 100$

$= 0.25 \times 100 =$ 25% increase

2 original: 10
change: -4

3 original: 80
change: +12

4 original: 9
change: -2

5 original: 250
change: -50

6 original: 15
change: +45

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The Percent Change Formula - Part 2

CPC 3

Instructions: When you have to calculate the absolute change yourself, the formula for percent change gets just a little more complicated. Use this version of the formula to solve the problems below. You may want to use a calculator and round your answers to the nearest tenth of a percent.

$$\text{change} = \text{new} - \text{original} \quad \textbf{SO} \quad \%\ \text{change} = \frac{\text{new} - \text{original}}{\text{original}} \times 100$$

1 original: 30 new: 22

$$\%\ \text{change} = \frac{22 - 30}{30} \times 100 = \frac{-8}{30} \times 100 = -0.267 \times 100$$

$$= \text{26.7\% decrease}$$

2 original: 10 new: 18

3 original: 80 new: 60

4 original: 64 new: 14

5 original: 5 new: 18

6 original: 7 new: 12

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Percent Change Word Problems - Set 1

CPC 4

Instructions: Use the percent change formula to solve these word problems. You may want to use a calculator for the division. Round answers to the nearest tenth of a percent.

1. An old light bulb uses 60 watts of power, but a new LED bulb uses only 9 watts. What is the percent change?

2. Rob did 15 push-ups on Monday, but on Tuesday he did 3 more than on Monday. What was the percent change?

3. If a dog weighs 42 lbs at the vet office, but then weights 46 lbs at the next visit, what is the percent change in the dog's weight?

4. A hat you want to buy is on sale for $16. The original price was $25. What is the percent change in price?

5. A grocery store had 38 employees, but then they hired 4 more people. What is the percent change in their staff?

6. At noon, the temperature was 77 degrees, but by midnight, it had dropped to 52 degrees. What percent change is that?

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Percent Change Word Problems - Set 2

CPC 5

Instructions: Use the percent change formula to solve these word problems. You may want to use a calculator for the division. Round answers to the nearest tenth of a percent.

1. Your school's drama club had 16 members, but then 2 more students joined the club. What was the percent change?

2. A pizzeria delivered 82 pizzas on Friday. On Saturday, they delivered 74 pizzas. What was the percent change from Friday to Saturday?

3. When Robby measured his height in January, it was 48 inches. But when he measured it again in December, it was 50 inches. What percent change is that?

4. A part-time employee who earns $14 per hour, gets a raise of $1 per hour. What percent change in pay is that?

5. Your phone battery typically lasts 12 hours, but a new and improved phone batter typically lasts 15 hours. What percent change is that?

6. A surf shop sold 145 long boards in the Summer, but only 90 in the Fall. What percent change is that?

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Percent Change Word Problems - Set 3

CPC 6

Instructions: Use the percent change formula to solve these word problems. We recommend using a calculator for these problems. Round answers to the nearest tenth of a percent.

1. A meteorologist measures 3.7 inches of rain in April and 2.8 inches of rain in May. What was the percent change from April to May?

2. A small town has a population of 2,650 residents. If 130 more people move to that town, what would the percent change be?

3. A library loaned out 570 books one week and 485 books the next week. What was the percent change in books loaned out?

4. If a person has saved up $3,120 in their savings account, and then they deposit $250 more into the account. What percent change is that?

5. If a loaf of bread costs $3.99 but then goes on sale for only $2.49 what percent change is that?

6. A commuter used to drive 23.5 miles per day. After changing jobs, they now drive 5.4 mile per day. What percent change is that?