Name: _____ Date: _____

Video Notes
Link on my weebly

# EVERYDAY PERCENT PROBLEMS
## N-GEN MATH® 6

There are very few math concepts that are used more in the real-world than that of percent.

***Exercise* #1:** List as many ways that you've heard of percentages used in either school or the real-world.

Percent calculations can be **messy** especially because they often involve **multiplying** by a **fraction** or a **decimal**. It is important to be able to do some simple percent problems. But, first a review of an important idea.

***Exercise* #2:** When we find a **percent of a total** (i.e. finding a part if we know the total and the percentage) then we are finding a fraction of it (out of 100). Convert each of the following percentages into equivalent fractions in simplest form.

(a) 50% (b) 25% (c) 75% (d) 10% (e) 1%

We should be able to find any of the above percentages of a total pretty easily. Perhaps the most useful one to learn about is how to find 10% of a total quickly.

***Exercise* #3:** Let's consider finding 10% of a total.

(a) What one calculation will quickly give us 10% of any total?

(b) If Quinn has $250 and spends 10% of it on fast food, how much money does he have left? Show your calculations.

(c) There are 450 students at Red Hook High School. If the school expects 10% more students next year, how many total students do they expect?

You can use the 10% shortcut trick to scale up to percentages like 20%, 30%, 40%, …

***Exercise* #4:** Use the 10% shortcut and then scale it up to answer the following questions.

(a) Hana and her friend spend $60 at a restaurant and would like to leave a tip worth 20% of the $60 total. How much should they leave for a tip?

(b) Lev took a 70-point test in social studies and earned 61 out of 70 points. Lev thinks he got above a 90% on this test. Show that Lev is incorrect.

You can use the 10% "trick" to scale up to 20%, 30%, …, 90%. You can also use it to scale down to find a quantity like 5%.

***Exercise* #5:** Jiro is considering buying a new jacket. The price listed on the jacket is $84, but a sign states that it is on sale for 5% off the listed price.

(a) What is 10% of the $84 listed price? What is 5% of the listed price?

(b) What will the price of the jacket be after the 5% is taken off?

We can even combine our 10% and 5% shortcuts from *Exercise* #5 if we need to find quantities such as 15%, 25%, 35%, etcetera.

***Exercise* #6:** Lian currently pays $640 per month to rent her apartment. She has been told by her landlord that her rent will be increasing by 15% next year. How much will she have to pay, per month, next year in rent? Show how you found your answer.

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# EVERYDAY PERCENT PROBLEMS
# N-GEN MATH® 6 HOMEWORK

## FLUENCY

Turn this page in. SHOW WORK starting with #2

1. To correctly find 10% of a total you could do each of the following *except*

   (1) divide by 10 (3) multiply by $\frac{1}{10}$

   (2) multiply by $\frac{10}{100}$ (4) multiply by 0.01 _____

2. Which of the following represents 10% of 45,000?

   (1) 4.5 (3) 450

   (2) 45 (4) 4,500 _____

3. Which of the following represents 20% of 80?

   (1) 8 (3) 24

   (2) 16 (4) 40 _____

## USING YOUR MATH

4. Amanda is considering buying a dress that has an original price of $120. The store is having a sale where the price of the dress is going to drop by 10%. How much will the new price of the dress be?

5. The high temperature today is 80 degrees. If the high temperature tomorrow is supposed to be 5% lower than the high today, what is the high temperature tomorrow supposed to be?

6. Cristiano scored 50 out of 60 points on a recent math test. Did Cristiano score higher than an 80% on this test? Justify your answer.

7. Ayden makes $15 per hour at his job and is going to receive a 20% raise. His manager, Uma, makes $20 per hour and is going to receive a 5% raise. After both Ayden and Uma have received their raises, how much more money, per hour, does Uma make than Ayden?

8. It used to be standard to leave a tip of 15% on the total of a bill that you get at a restaurant. This is more challenging than a 10% or 20% tip but can still be done using our 10% shortcut. Find the tip you should leave on each of these totals. Show your calculations.

   (a) Total bill of $40.00

   (b) Total bill of $68.00

## REVIEWING YOUR MATH

9. Solve each of the following percent problems where you must **find the total** amount based on a part and a percent. In some cases you may need to reduce your percent ratio.

   (a) James scored 15 points, which was 60% of the total points. How many total points were there on the quiz?

   (b) 56 people put lotion on at the pool, which was 80% of the total people at the pool. How many people were there?