Study the following.

There are three ways to change a fraction to a percent, when the fraction does not have 100 in the denominator.

First Way (only works if denominator is a factor of 100):
Make an equivalent fraction with 100 in the denominator, and then change this new fraction to a percent. This is the same as writing a proportion and solving by making an equivalent fraction.

Example: $\frac{2}{5} = \frac{?}{100}$

$\frac{2}{5} \times \frac{20}{20} = \frac{40}{100} = 40\%$

Change to a percent by making an equivalent fraction.

1. 3/10
2. 1/25
3. ¾
4. 12/20
5. 1/5
6. 3/50
7. 3/5
8. 9/5
9. 7/4
10. 7/10
11. 13/20

Second Way(always works):
Write a proportion and solve by cross multiplication.

Example: $\frac{2}{5} = \frac{?}{100}$

$5 \times ? = 2 \times 100$

$5 \times ? = 200$ $(200 \div 5 = 40)$ so $? = 40$ answer is 40%

Change to a percent by writing a proportion and cross multiplying.

1. ¼

2. 4/5

3. 23/50

4. 18/20

5. 2/5

6. 3/25

7. 89/50

8. 7/10

9. 9/5

10. 13/10

Third Way (always works):
Change the fraction to a decimal and then to a percent.

Example: $\frac{2}{5}$ → 5) 2.00 → .40 → .40 = 40%

Example2: 2/3 → 3) 2.000 → .666

.666 rounded to hundredths is .67 = 67%

Change to a percent by first changing to a decimal. Round to the nearest percent.

1. 5/8

2. 3/11

3. 1/7

4. 4/28

5. 5/60

6. 14/20

7. 1/6

8. 5/71

9. 3/16

10. 1/3

11. 2/5

12. 7/10

Write as a percent using any way you like. (Round to the nearest percent.)

1. 3 out of 4 people chew gum

2. Jim got 6 out of 10 questions correct

3. 3 out of 7 bracelets were pink.

4. 8 out of 25 students got an A

5. 1 out of 6 high school students drive to school

6. 4 out of 20 cookies were chocolate.

7. 3 out of 5 games were played

8. 20 out of 40 were boys

9. 30 out of 90 bricks were red

10. 10 out of 45 ribbons were blue

Study the following.

Percents can be larger than 100%.

Examples: 143% 200% 6,420%

Change the following fractions to percents that are larger than 100%.

1. 240/100
2. 780/100
3. $\frac{128}{100}$
4. $\frac{3,400}{100}$
5. 600/100
6. 347/100

Study the following.

Percents can be decimal numbers.

Examples: 25.5% 16.2% .03% .9%

Change the following to decimal percents.

1. 41.5/100
2. 2.34/100
3. $\frac{80.1}{100}$
4. $\frac{.004}{100}$
5. .15/100
6. 4.444/100

Study the following.

Changing fractions to percents. (greater than 100%)

When the denominator is 100, it is easy to change a fraction to a percent.

Examples: $340/100 = 340\%$

If the denominator is not 100, follow one of the three ways as explained earlier. They are written below with new examples of percents greater than 100.

First Way(only works if denominator is a multiple of 100):
Make an equivalent fraction with 100 in the denominator, and then change this new fraction to a percent. This is the same as writing a proportion and solving by making an equivalent fraction.

Example: $\frac{6}{5} = \frac{?}{100}$

$$\frac{6}{5} \times \frac{20}{20} = \frac{120}{100} \qquad = 120\%$$

Second Way(always works):
Write a proportion and solve by cross multiplication.

Example: $\frac{6}{5} = \frac{?}{100}$

$5 \times ? = 6 \times 100$

$5 \times ? = 600$ $(600 \div 5 = 120)$ so $? = 120$ answer is 120%

Third Way(always works):
Change the fraction to a decimal and then to a percent.

Example: $\frac{6}{5}$ 5) 6.00 = 1.20 1.20 = 120%

Example2: 4/3 3) 4.000 = 1.333

1.333 rounded to hundredths is 1. 3 3 = 133%

Change to a percent greater than 100.
Round to the nearest percent if needed.

1. 9/5

2. 5/2

3. 4/3

4. 22/7

5. 13/10

Study the following.

Changing fractions to percents. (with decimal percent answers)

When the denominator is 100, it is easy to change a fraction to a percent.

Examples: 2.34/100 = 2.34%

If the denominator is not 100, follow one of the way two or three as explained earlier. They are written below with new examples of percents that will give decimal answers.

First Way(will not work):

Second Way(always works):
Write a proportion and solve by cross multiplication.

Example: Change 3/7 to a percent. round to the nearest tenth of a percent

$$\frac{3}{7} = \frac{?}{100}$$

$7 \times ? = 3 \times 100$

$7 \times ? = 300$

$$7\overline{)300.00} = 42.85$$

(300 ÷ 7 = 42.85) so ? = 42.85

rounded to the nearest tenth of a percent is 42.9%

Third Way(always works):
Change the fraction to a decimal and then to a percent.

Example: change 3/7 to a percent. Round to the nearest tenth of a percent.

$$7\overline{)3.0000} = 0.4285$$

.4285 = 42.85% rounded = 42.9%

Change to a decimal percent.
Round to the nearest tenth of a percent if needed.

1. 1/3

2. 5/11

3. 1/7

4. 3/8

5. 4/9

Review.

Change these fractions to percent. Round to the nearest tenth of a percent.

1. 3/25

2. 60/100

3. 3/100

4. 50/100

5. 75/100

6. ¼

7. 3/5

8. 20/10

9. 1/6

10. 450/100

11. 2/9

12. 1/8

13. 2/13

14. 3/4