Warm Up Grade 8

1) Fill in the chart

Percent	Decimal	Fraction
62.5 % (×100)	0.625	top ÷ bott → $\frac{125}{200}$
46 % (×100)	0.46	place value → $\frac{46}{100} = \frac{23}{50}$
0.35 % (÷100)	0.0035	$\frac{35}{10\,000} = \frac{7}{2\,000}$
82 % (÷100)	0.82	$\frac{82}{100} = \frac{41}{50}$
340 % (×100)	3.4	$\frac{34}{10} = \frac{17}{5}$

2) What is 12.4% as a fraction?

3) What is 0.47% as a decimal?

26.% $\div 100$ 0.26

0.5 % $\div 100$ 0.005

1.8 $\frac{18}{10} \div 2 \div 2$ $\frac{9}{5}$

0.36 $\frac{36}{100} \div 2 \div 2$ $\frac{18}{50} \div 2 \div 2 = \frac{9}{25}$

0.04 $\frac{4}{100} \div 2 \div 2 = \frac{2}{50} \div 2 \div 2 = \frac{1}{25}$

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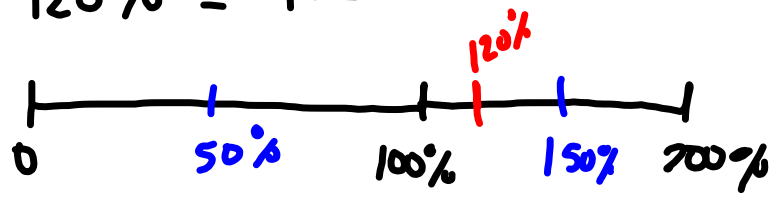
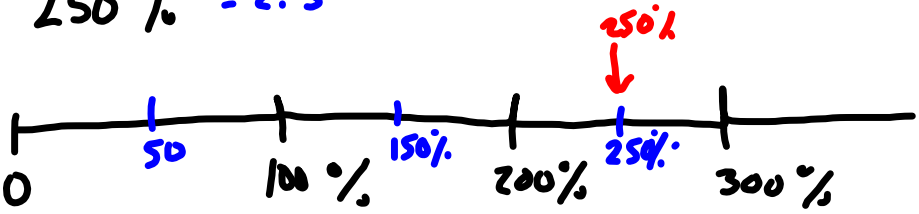
5) a) 120% = 1.2

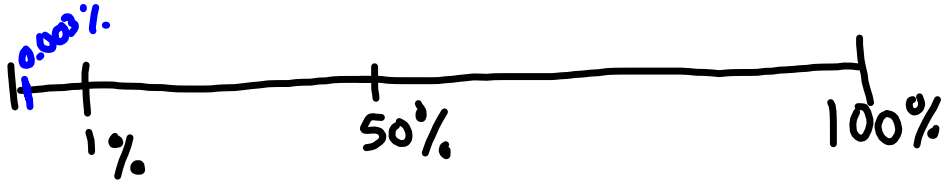


b) 250% = 2.5



c) 475 = 4.75

d) 0.3 % = 0.003



e) 0.53 % 0.0053

f) 0.75 % = 0.0075

#5,6,10, 11

		×100 Percent	Fraction
6) a)	1.7	170%	$\frac{170}{100} = \frac{17}{10} = 1\frac{7}{10}$
b)	3.3	330%	$\frac{330}{100} = \frac{33}{10} = 3\frac{3}{10}$
c)	0.003	0.3%	$\frac{3}{1000} =$
d)	0.0056	0.56%	$\frac{56}{10000} = \frac{28}{5000} = \frac{14}{2500} = \frac{7}{1250}$

10) i) $\frac{1}{3} = 0.\overline{33} = 33.\overline{3}\%$

ii) $\frac{2}{3} = 0.\overline{6} = 66.\overline{6}\%$

iii) $\frac{3}{3} = 1 = 100\%$

iv) $\frac{4}{3} = 1.\overline{3} = 133.3\%$

v) $\frac{5}{3} = 1.\overline{6} = 166.\overline{6}\%$

vi) $\frac{6}{3} = 2 = 200\%$

b) As the numerator increases by 1 the percent increases by $33.\overline{3}\%$

c) i) $\frac{7}{3} = 2\frac{1}{3} = 2.\overline{3} = 233.\overline{3}\%$

ii) $\frac{8}{3} = 2\frac{2}{3} = 2.\overline{6} = 266.\overline{6}\%$

iii) $\frac{9}{3} = 3 = 300\%$

iv) $\frac{10}{3} = 3\frac{1}{3} = 3.\overline{3} = 333.\overline{3}\%$

v) $\frac{11}{3} = 3\frac{2}{3} = 3.\overline{6} = 366.6\%$

vi) $\frac{12}{3} = 4 = 400\%$

11) a i) 200 % of 360

×2 (100% of 360 = 360) ×2

200% of 360 = 720

ii) 20 % of 360

×2 (10 % of 360 = 36) ×2

20% of 360 = 72

iii) 2 % of 360 =

×2 (1 % of 360 = 3.6) ×2

2% of 360 = 7.2

iv) 0.2 % of 360

×2 (1 % of 360 = 3.6) ×2

2% of 360 = 7.2

÷10 ( ) ÷10

0.2% of 360 = 0.72

b) The digit moves one place to the right each time you decrease your percent by a factor of 10

c) 2000 % of 360 = 720

×10 (100% of 360 = 360) ×10

×10 (1000% of 360 = 3600) ×2

2000% of 360 = 7200

i.) 0.02 % of 360

÷10 (2 % of 360 = 7.2) ÷10 from above

0.02% of 360 = 0.072

Estimating and Mentally Calculating Percents

There are several percents that you can figure out without a calculator.

100 % - 100% of a number is the number itself.
50% - You can easily find 50% of a number by dividing the number by 2. **Ex. 50% of 68 = 34**
25% - You can easily find 25% of number by dividing the number by 4. **Ex. 25% of 64 = 16**
10% - You can easily find 10% of a number by dividing the number by 10. **Ex. 10% of 678 = 67.8** (move decimal 1 place left)
1% - You can easily find 1% of a number by dividing the number by 100. **Ex. 1% of 52.8 = 0.528** (move decimal 2 places left)
33 1/3 % - You can easily find 33 1/3% of a number by dividing the number by 3.

So if you can find the above percent, then there are also many, many more that you can find.

How can you find:

5% - find 10%, then divide by 2.
20% - Find 10%, then multiply by 2.
30% - find 10% then multiply by 3.
60% - find 10% then multiply by 6.
2% - find 1% then multiply by 2.
4% - find 1% then multiply by 4.
11% - find 10%, find 1% then add the 2 answers
15% - Find 10%, then find 5% then add the 2 answers.
75% - find 25% then multiply by 3.
90% - find 100%, then find 10% and subtract the answers.
55% - find 50%, then find 5% and add the answers.
150% - find 100%, then find 50% and add the answers.

If you have to estimate a percent, change the percent to the closest number that you can find mentally, or change the number itself to an easy number to work with.

Calculate mentally

50% of 430

like ÷ by 2

= 215

10% of 187

like ÷ by 10

= 18.7

20% of 80

10% of 80 = 8 (×2)

20% of 80 = 16

15% of 70

10% of 70 = 7

+ 5% of 70 = 3.5

15% of 70 = 10.5

11% of 52

10% of 52 = 5.2

+ 1% of 52 = 0.52

11% of 52 = 5.72

15% of 38

10% of 38 = 3.8

+ 5% of 38 = 1.9

15% of 38 = 5.7

200% of 51

100% of 51 = 51 (×2)

200% of 51 = 102

Class / Homework

Worksheet

Math 8 Review of Fraction decimal Percent Day 3 REVIEW WS.docx