

Warm Up Grade 8

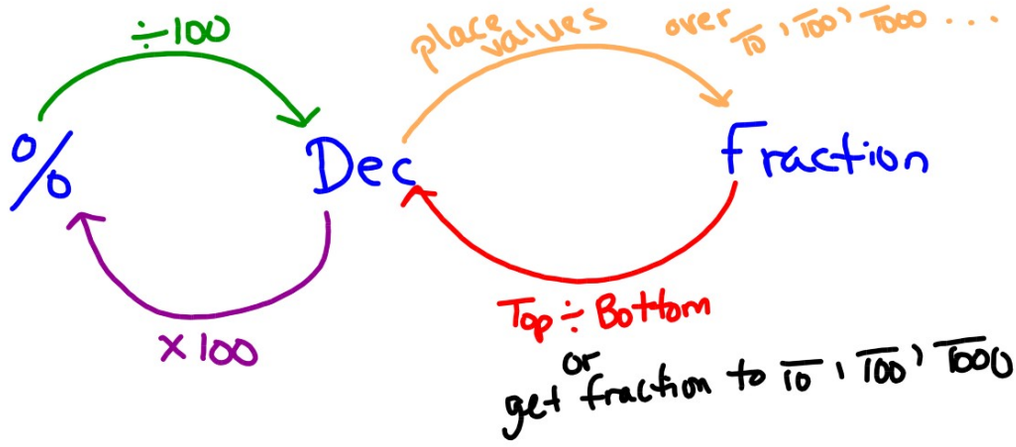
Date: Oct 15

÷100

put over 100

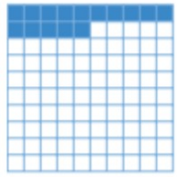
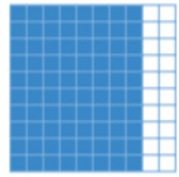
	Out of 100	Percent	Fraction	Decimal
a	231	231%	$\frac{231}{100} = 2\frac{31}{100}$	2.31
b	17	17%	$\frac{17}{100}$	0.17
c	5	5%	$\frac{1}{20} \times 5$ 1/20 $\frac{5}{100}$	0.05
d	6	6%	$\frac{6}{100} \div 2 = \frac{3}{50}$	0.06
e	74	74%	$\frac{74}{100} = \frac{37}{50}$	0.74

X100


÷100
%
Dec
Fraction
place values
over 10, 100, 1000 . . .
Top ÷ Bottom
or
get fraction to 10, 100, 1000
x 100

WS Solutions

1. What percent of each hundred chart is shaded?
Write each percent as a fraction and as a decimal.

a)  b)  c) 

1a) $\frac{15}{100} = \frac{3}{5} = 15\% = 0.15$

b) $\frac{40}{100} = \frac{2}{5} = 40\% = 0.40$

c) $\frac{80}{100} = \frac{4}{5}$ $80\% = 0.80$

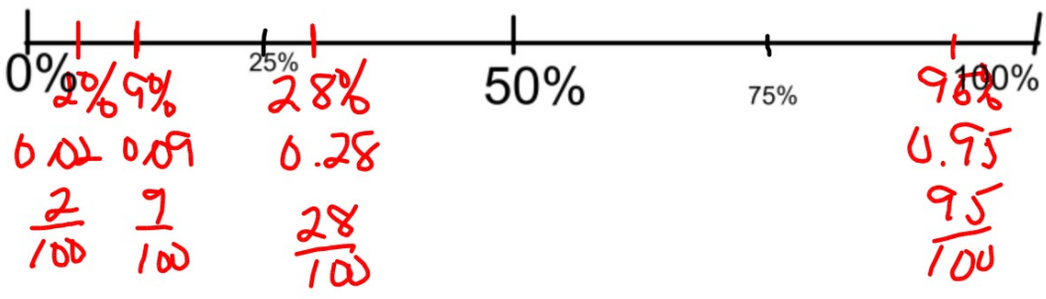
2. Write each percent as a fraction and a decimal.
Sketch number lines to show how the numbers are related.
a) 2% b) 9% c) 28% d) 95%

2a) 2% 0.02 $\frac{2}{100} = \frac{1}{50}$

b) 9% 0.09 $\frac{9}{100} =$

c) 28% 0.28 $\frac{28}{100} = \frac{14}{50} = \frac{7}{25}$

d) 95% 0.95 $\frac{95}{100} = \frac{19}{20}$



WS Solutions

3. Write each fraction as a decimal and a percent.

a) $\frac{2}{10} \overset{\times 10}{=} \frac{20}{100}$ b) $\frac{3}{50} \overset{\times 2}{=} \frac{6}{100}$ c) $\frac{4}{25} \overset{\times 4}{=} \frac{16}{100}$ d) $\frac{13}{20} \overset{\times 5}{=} \frac{65}{100}$ e) $\frac{4}{5} \overset{\times 20}{=} \frac{80}{100}$

3 a) $\frac{2}{10} = 0.20$ or 20%

b) $\frac{3}{50} = \frac{6}{100}$ 0.06 or 6%

c) $\frac{4}{25} = \frac{16}{100}$ 0.16 or 16%

d) $\frac{13}{20} = \frac{65}{100}$ 0.65 or 65%

e) $\frac{4}{5} = \frac{80}{100}$ 0.80 or 80%

4. Fred had 8 out of 10 on a test. Janet had 82% on the test. Who did better? How do you know?



4. Fred $\frac{8}{10} = \frac{80}{100} = 80\%$ 0.8

Janet 82% 0.82

Janet did better since 82 > 80

since 0.82 > 0.8

Ws Grade 8 Extra practice Fraction decimal percent Solutions

1. Write each fraction as a decimal and a percent.

a) $\frac{21}{35}$ b) $\frac{14}{20}$ c) $\frac{28}{56}$ d) $\frac{12}{16}$ e) $\frac{18}{200}$

f) $\frac{19}{20}$ g) $\frac{16}{25}$ h) $\frac{32}{40}$ i) $\frac{9}{50}$ j) $\frac{9}{10}$

1a) $\frac{21}{35} = \frac{3}{5} = \frac{60}{100} = 60\%$ 0.60

b) $\frac{14}{20} = \frac{70}{100} = 70\%$ 0.70

c) $\frac{28}{56} = \frac{1}{2} = \frac{50}{100}$ 50% 0.50

d) $\frac{12}{16} = \frac{3}{4} = \frac{75}{100}$ 75% 0.75

e) $\frac{18}{200} = \frac{9}{100}$ 9% 0.09

f) $\frac{19}{20} = \frac{95}{100}$ 95% 0.95

g) $\frac{16}{25} = \frac{64}{100}$ 64% 0.64

h) $\frac{32}{40} = \frac{8}{10} = \frac{80}{100}$ 80% 0.80

i) $\frac{9}{50} = \frac{18}{100}$ 18% 0.18

j) $\frac{9}{10} = \frac{90}{100}$ 90% 0.90

$\frac{17}{20} \overset{\times 5}{=} \frac{85}{100}$

$\frac{21}{28} \overset{\div 7}{\div 7} = \frac{3}{4} \overset{\times 25}{\times 25} = \frac{75}{100}$

$\frac{40}{50} = \frac{80}{100}$

2. Ruth's test scores were: $\frac{17}{20}$, $\frac{21}{28}$, and $\frac{40}{50}$.
Write each test score as a percent.
Order the test scores from greatest to least.
Which was Ruth's best test? How do you know?
1st test

2. Ruth

$\frac{17}{20} = \frac{85}{100} = 85\%$

$\frac{21}{28} = \frac{3}{4} = \frac{75}{100}$ 75%

$\frac{40}{50} = \frac{80}{100} = 80\%$

The best test was $\frac{17}{20}$, it is the highest percentage

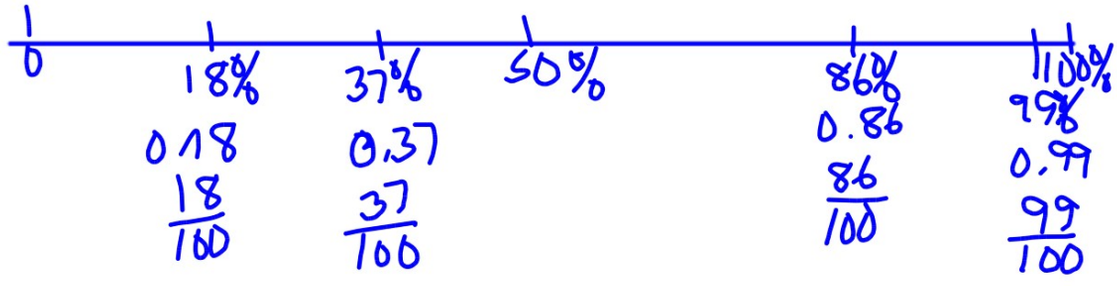
3. Write each percent as a fraction and a decimal.
Sketch number lines to show how the numbers are related.
a) 18% **b)** 37% **c)** 86% **d)** 99%

3. a) 18% 0.18 $\frac{18}{100} = \frac{9}{50}$

b) 37% 0.37 $\frac{37}{100}$

c) 86% 0.86 $\frac{86}{100} = \frac{43}{50}$

d) 99% 0.99 $\frac{99}{100}$



4. In 5 min, Benjamin completed 27 of 30 multiple-choice questions.
Madison completed 83% of the questions.
Who completed more questions?
How do you know?

4. Ben $\frac{27}{30} \overset{\div 3}{=} \frac{9}{10}$ or $\frac{90}{100}$ 90%

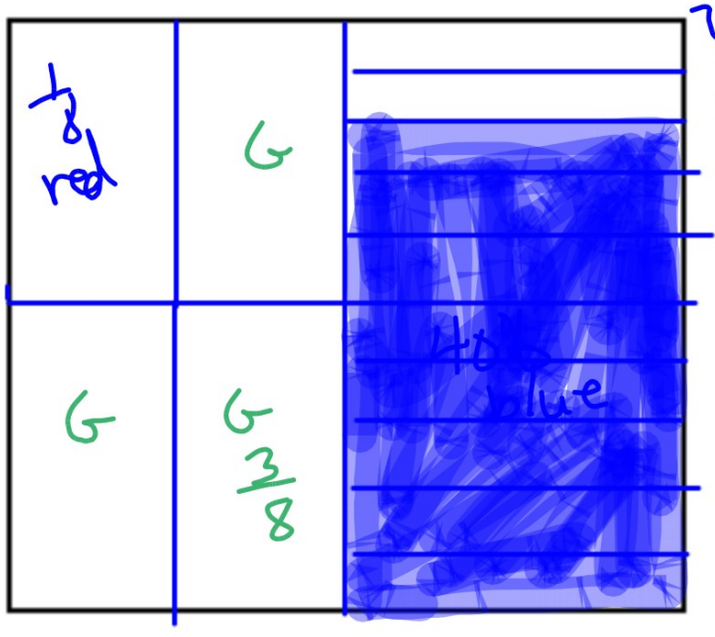
Madison 83%

Ben completed more.

5. Barney created a design on a grid.
He coloured $\frac{1}{8}$ of the grid red. → 12.5%
He coloured 0.375 of the grid green. → 37.5%
He coloured 40% of the grid blue. → 40.0%
He coloured the rest of the grid purple.
What percent of the grid is purple?
How do you know?

$\frac{1}{8} \times \frac{125}{125} = \frac{125}{1000} = 0.125$ → 12.5%

5.



10% Purple

$\frac{1}{8}$ red

0,375

$\frac{375}{1000} = \frac{3}{8}$ green

Mentally Calculating Percents

There are percents that you can find without the use of a calculator.

You can always find 100% of number, because your answer will be the number itself.

100% of 342 = 342

You can find 10% of a number , by dividing the number by 10.

10% of 140 = 14 or 14.0

You can find 1% of a number, by dividing the number by 100.

1% of 850 = 8.5

You can find 50% of a number by dividing the number by 2.

50% of 64 = 32

You can find 25% of a number by dividing the number by 4.

25% of 44 = 11

$\frac{25}{100} = \frac{1}{4}$

10 % of 12 =

10 % of 156.5 =

10 % of 45.23 =

Have students put examples on back of sheet

How can you mentally calculate 20% of a number?
Find 10% of the number , then multiply your answer by 2.

20% of 65 = 13
10% of 65 = 6.5

How can you mentally calculate 30% of a number?
Find 10% of the number, then multiply your answer by 3.

30% of 90 = 27
10% of 90 = 9.

How can you mentally calculate 70% of a number?
Find 10% of the number, then multiply your answer by 7.

How can you mentally calculate 2% of a number?
Find 1% of the number, then multiply it by 2.

2% of 25 = 0.50
1% of 25 = 0.25

How can you mentally calculate 75% of a number?
Find 25% of the number, then multiply your answer by 3.

75% of 240 = 180
25% of 240 = 60
↳ like ÷ by 4

How can you find 5% of a number?
Find 10% of the number, then divide your answer by 2.

|How can you find 15% of a number?
Find 10% of the number, then find 5% of the number and add your 2 answers.

How can you find 11% of a number?
Find 10% of the number,find 1% of the number, then add your answers

Mentally calculate the following:

(a) 10 % of 90 (like ÷ by 10)

= 9

(b) 50 % of 42 (like ÷ by 2)

= 21

(c) 25% of 60 (like ÷ by 4)

= 15

(d) 20% of 66

10 % of 66 = 6.6 (x2)

20% of 66 = 13.2

(e) 75 % of 24

25% of 24 = 6 (x3)

75% of 24 = 18

(f) 15% of 80

10% of 80 = 8 (÷2)

5% of 80 = 4 (÷2)

15% of 80 = 12

(g) 1 % of 38

= 0.38

(h) 10% of 75

= 7.5

(i) 11% of 120

10% of 120 = 12

1% of 120 = 1.2

11% of 120 = 13.2

(j) 30% of 15

10% of 15 = 1.5 (x3)

30% of 15 = 4.5

(k) 2% of 400

1% of 400 = 4 (x2)

2% of 400 = 8

(l) 5% of 150

10% of 150 = 15 (÷2)

5% of 150 = 7.5

WORKSHEET

Evaluate each and show work

1) 75% of 80

2) 10% of 600

3) 25% of 100

4) 40% of 110

5) 30% of 70

6)40% of 20

7) 70% of 80

8) 80% of 50

9) 70% of 180

10) 80% of 90

11) 5% of 80

12) 3% of 30

31) 2% of 100

14) 4% of 160

15) 20% of 2700

14) 20% of 160