## Percentages

Write one number as a percentage of another number.


One Number as a Percentage of Another Number
Write the following as percentages
eg $\quad 25$ out of 40

$$
\frac{25}{40}=\frac{250}{400}=\frac{62.5}{100}=62.5 \%
$$

a 50 out of 200
$\mathrm{n} \quad 12$ out of 20
b 80 out of 400
o $\quad 15$ out of 20
c 65 out of 300
p $\quad 17$ out of 25
d 72 out of 400
e $\quad 150$ out of 200
q $\quad 35$ out of 40
$r \quad 25$ out of 40
f 45 out of 200
s $\quad 72$ out of 200
g $\quad 29$ out of 50
$t \quad 48$ out of 50
h 37 out of 50
u $\quad 37$ out of 50
i $\quad 16$ out of 25
v 8 out of 20
j 42 out of 50
w 19 out of 20
k $\quad 168$ out of 200
x $\quad 17$ out of 25
I 18 out of 25
$y \quad 39.5$ out of 50
m $\quad 65$ out of 200
z $\quad 16.5$ out of 20

Find the percentage of a number

1 Write the fraction of percentage
over 100
2 Change the percentage into a DECIMAL FRACTION

3 Multiply the decimal by the
ORIGINAL NUMBER

Find the percentage of a number

Following percentages of a number
eg $\quad 42 \%$ of 86 .

$$
\frac{42}{100} \times 86=0.42 \times 86=36.12
$$

| a | $35 \%$ of 80 | n | $99 \%$ of 450 |
| :--- | :--- | :---: | :--- |
| b | $45 \%$ of 60 | o | $61 \%$ of 240 |
| c | $85 \%$ of 150 | p | $93 \%$ of 160 |
| d | $78 \%$ of 250 | q | $39 \%$ of 2000 |
| e | $84 \%$ of 450 | r | $89 \%$ of 300 |
| f | $60 \%$ of 240 | s | $145 \%$ of 800 |
| g | $83 \%$ of 160 | t | $345 \%$ of 650 |
| h | $98 \%$ of 2000 | u | $185 \%$ of 750 |
| i | $67 \%$ of 300 | v | $378 \%$ of 350 |
| j | $55 \%$ of 80 | w | $284 \%$ of 550 |
| k | $38 \%$ of 60 | y | $46.7 \%$ of 740 |
| l | $94 \%$ of 150 | z | $39.8 \%$ of 5000 |

# DIVIDE THE PERCENTAGE BY 100. <br> THE UNITS OR ONES COLUMN FROM THE <br> PERCENTAGE NEEDS TO BE IN THE <br> HUNDREDTHS COLUMN OF THE DECIMAL 

Convert Percentages to Decimals

Convert the following percentages to decimals
eg $\quad 4 \%=0.04 \quad 47 \%=0.47 \quad 49.3 \%=0.493 \quad 251 \%=2.51 \quad 375.8 \%=3.758$

| a | $57 \%$ | j | $28 \%$ | s | $16.9 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| b | $93 \%$ | k | $8 \%$ | t | $83.7 \%$ |
| c | $86 \%$ | l | $2 \%$ | u | $4.9 \%$ |
| d | $27 \%$ | m | $183 \%$ | v | $8.3 \%$ |
| e | $1 \%$ | n | $612 \%$ | w | $9.91 \%$ |
| f | $7 \%$ | o | $405 \%$ | x | $0.7 \%$ |
| g | $9 \%$ | p | $625 \%$ | y | $0.4 \%$ |
| h | $16 \%$ | q | $550 \%$ | z | $0.067 \%$ |
| i | $3 \%$ | r | $32.5 \%$ |  |  |

IMPORTANT INFORMATION TO
LEARN:
$1 \times 100=100$
$2 \times 50=100$
$4 \times 25=100$
$5 \times 20=100$
$10 \times 10=100$
$2 \frac{1}{2} \times 40=100$

Make the percentage the numerator.
Set the denominator as 100.

## CANCEL DOWN THE FRACTION BY DIVIDING

THE TOP AND BOTTOM BY THE SAME
AMOUNT

Convert Percentages to Fractions
Convert the following percentages into fractions
eg
Both numerator and denominator are divisible by 5

$$
55 \%=\frac{55}{100}=\frac{11}{20} \quad 36 \%=\frac{36}{100}=\frac{9}{25}
$$



| a | $20 \%$ | j | $32 \%$ | s | $52 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| b | $30 \%$ | k | $44 \%$ | t | $66 \%$ |
| c | $70 \%$ | l | $72 \%$ | u | $150 \%$ |
| d | $90 \%$ | m | $84 \%$ | v | $250 \%$ |
| e | $85 \%$ | n | $64 \%$ | w | $175 \%$ |
| f | $65 \%$ | o | $56 \%$ | x | $225 \%$ |
| g | $95 \%$ | p | $76 \%$ | y | $350 \%$ |
| h | $16 \%$ | q | $82 \%$ | z | $849 \%$ |
| i | $48 \%$ | r | $94 \%$ |  |  |

REMEMBER THE WORK WE DID ON MIXED NUMBERS AND IMPROPER FRACTIONS.

