% Percentages %

Per cent means -

for every hundred

$3\% = \frac{3}{100}$ $27\% = \frac{27}{100}$

$\frac{1}{2} = \frac{50}{100} = 50\%$ $\frac{3}{10} = \frac{30}{100} = 30\%$

$\frac{1}{5} = \frac{20}{100} = 20\%$

Some important percentages:

$\frac{1}{2} = 50\%$ $\frac{1}{4} = 25\%$ $\frac{3}{4} = 75\%$

$\frac{1}{3} = 33\frac{1}{3}\%$ $\frac{2}{3} = 66\frac{2}{3}\%$

33.3% 66.6%

LO: understand that 'percentage' means 'number of parts per 100'
and use this to compare proportions

How to change a percentage to a fraction or a decimal

$\frac{1}{4} = 25\% = 0.25$

$0.5 = \frac{1}{2} = 50\%$

$3\% = 0.03 = \frac{3}{100}$

$20\% = \frac{20}{100} = 0.2$

$\frac{3}{10} = 0.3 = 30\%$

wwpercentages

$= \frac{6}{100}$

$6\% = 0.06$

$\frac{32}{100} = 32\% = 0.32$

$11\% = 0.11$

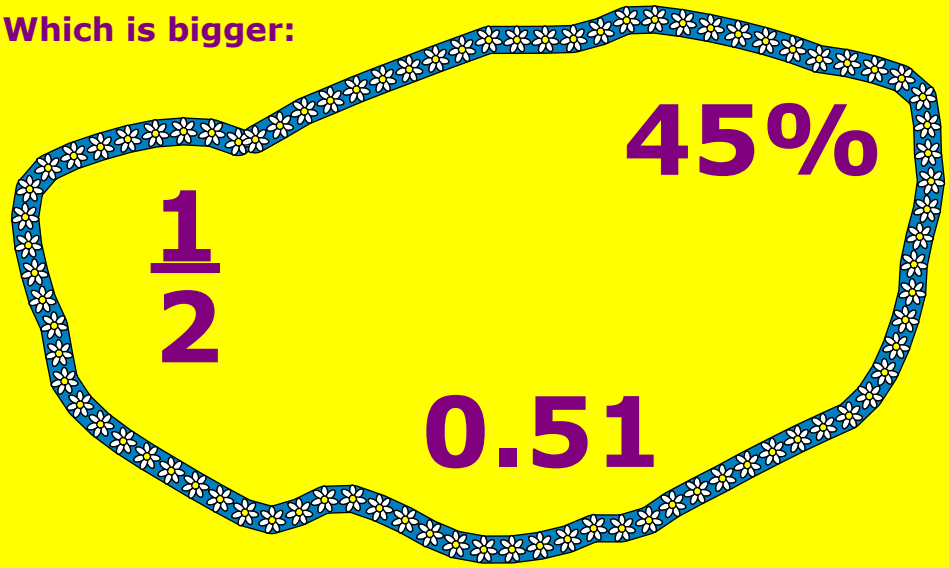
$\frac{11}{100}$

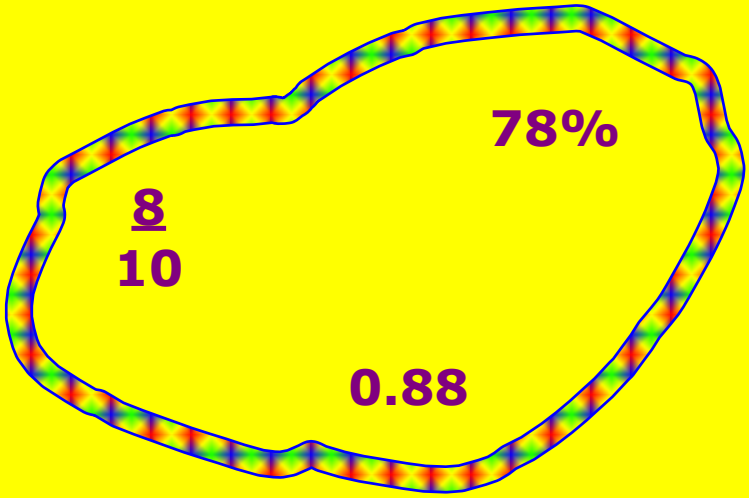
$0.7 = \frac{70}{100}$

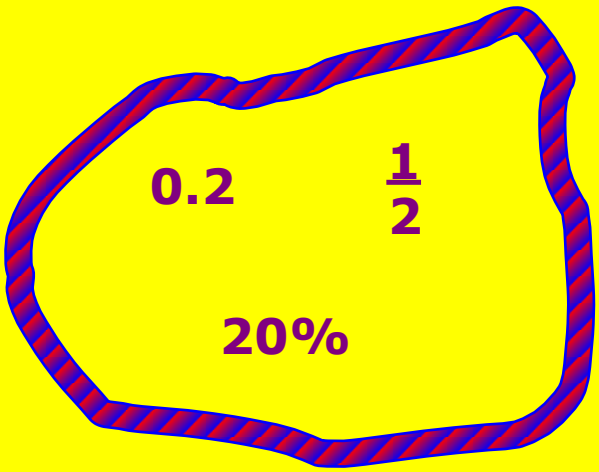
$= 70\%$

How to compare fractions, decimals and percentages

Which is bigger:







wwpercentages

Fraction to decimal match.
Ext: write as a percentage

How to work out a percentage of a given quantity.

(easy ones)

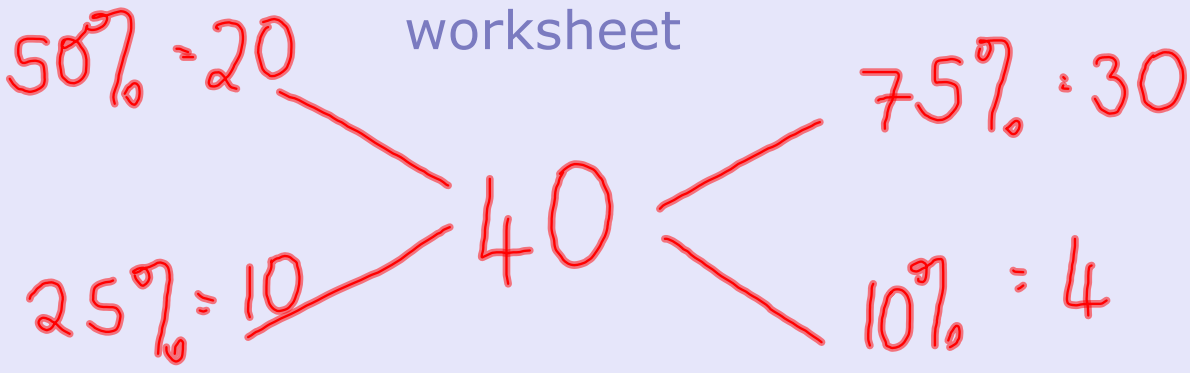
50% $\left(\frac{1}{2}\right)$

75% $\left(\frac{1}{2}+\frac{1}{4}\right)$

25% $\left(\frac{1}{4}\right)$

10% Divide by 10

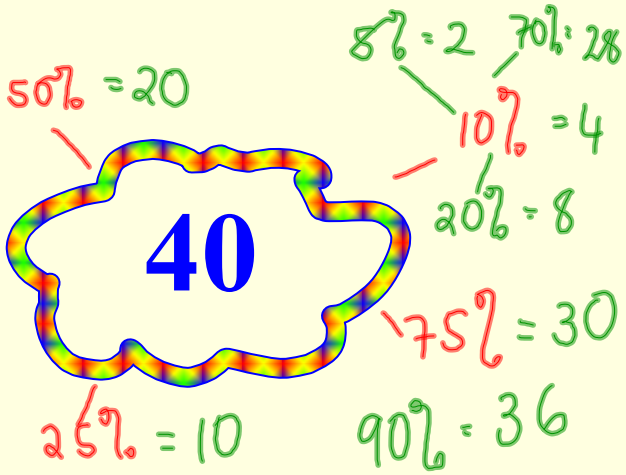
worksheet



Finding a percentage of an amount.

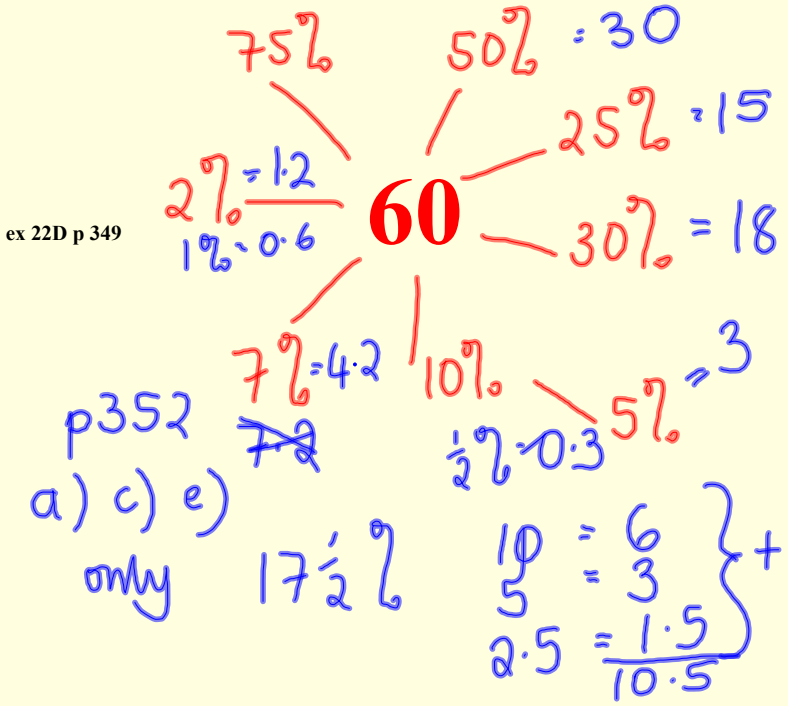
without a calculator!

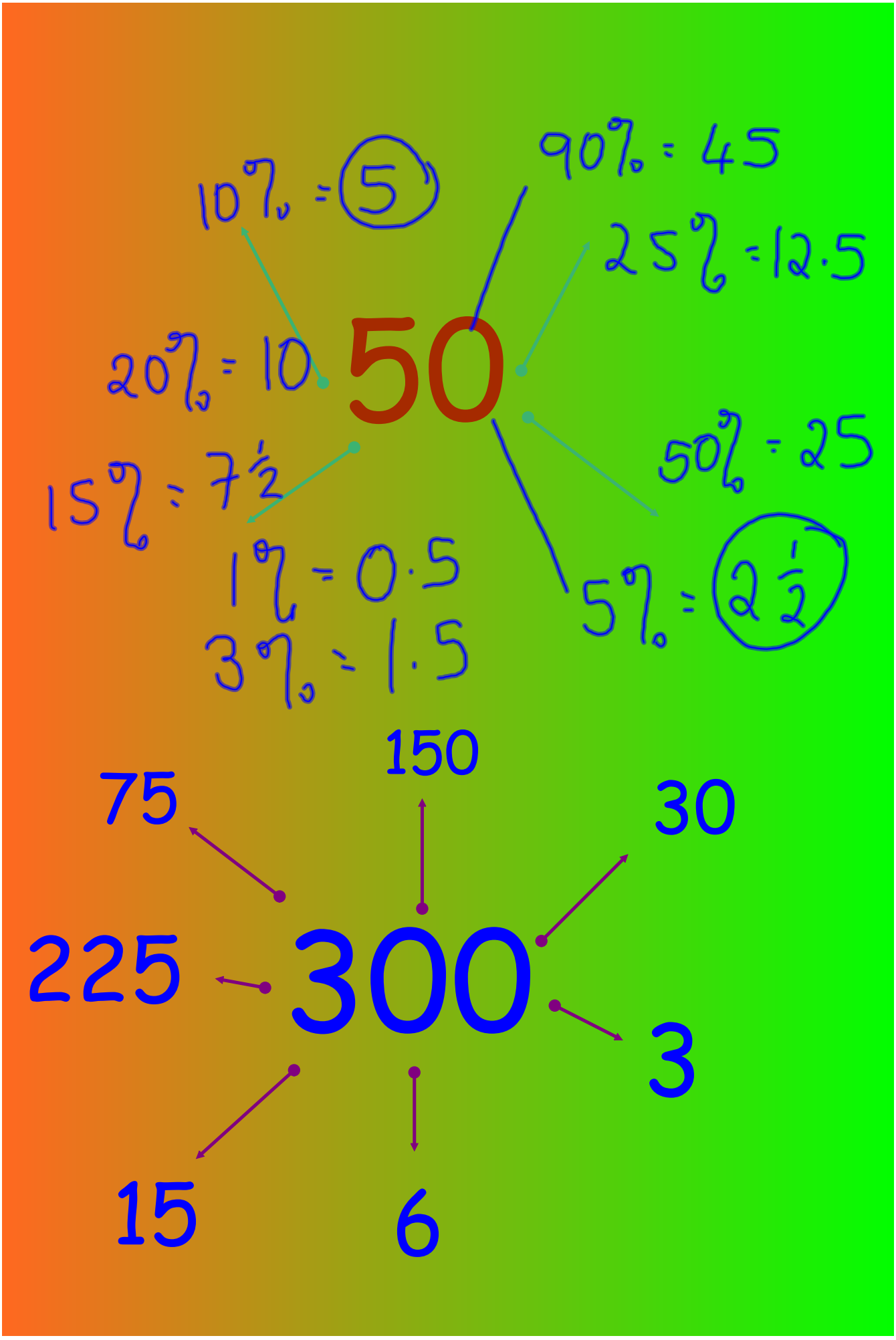
(hard ones!)

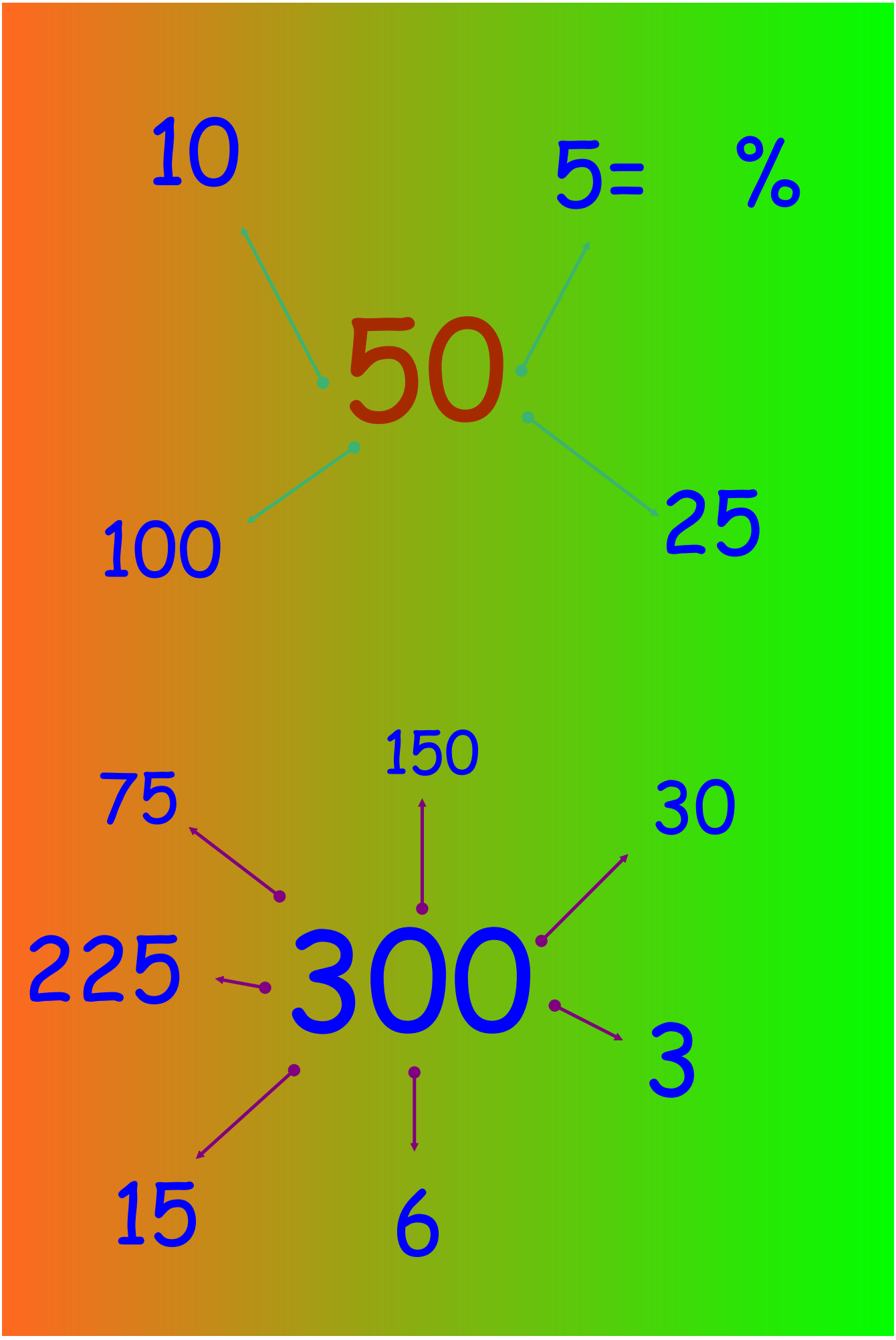


£ 8.20

ex 22D p 349




10% = 5
90% = 45
25% = 12.5
20% = 10
50
15% = 7½
50% = 25
1% = 0.5
3% = 1.5
5% = 2½
150
75
30
225
300
3
15
6


10
5=
%
50
100
25
150
75
30
225
300
3
15
6

Make a display, using any number,
showing as many percentages as you can.

Here is a percentage table:

	50	60	130	340
5%	2.5	3	6.5	17
10%	5	6	13	34
50%	25	30	65	170

Use the information in the table to answer these questions:

1. Find 10% of 340
2. Find 5% of 130
3. Find 15% of 60
4. Find 20% of 50
5. Find 2 ½ % of 340
6. Find 17.5% of 60

Fill in the gaps:

7. 170 is ____% of 340
8. 6.5 is _____% of 130
9. 12 is _____% of 60

Increasing by a percentage

Increase £60 by 10%

10% of 60 = 6

60 + 6 = £66

Increase £60 by 12.5%

10% = 6

5% = 3

2½% = 1.5

12.5% = 7.5

£60 + £7.50

= £67.50

Increase £34.20 by 17%

10%	3.42
5%	1.71
1%	0.342
2%	0.684

3.42
1.71
0.684
5.814

£5.81

page 528

Decreasing by a percentage

Decrease £60 by 10%

Find 10% £6

60 - 6 = £54

Decrease £60 by 12.5% 12½% = £7.5

10% = 6

5% = 3

2½% = 1.5

60 - 7.50 £52.50

Decrease £34.00 by 15%

10% of £34 = 3.40

5% 34 = 1.70

15% of 34 = 5.10

34.00 - 5.10 = 28.90

If you need to practice finding a percentage:
p191 E1- E9

If you can do that try decreasing by a percentage:
page 531
C and D

Finding a percentage of an amount.

with a calculator!

30% means: $\frac{30}{100}$

"of" means: $\times$

Find 30% of 55 $\frac{30}{100} \times 55 = 16.5$

Find 12% of 34 $\frac{12}{100} \times 34 = 4.08$

Increase £3.40 by 15%

Decrease £ 3.40 by 30%

Increase 69 by 12%

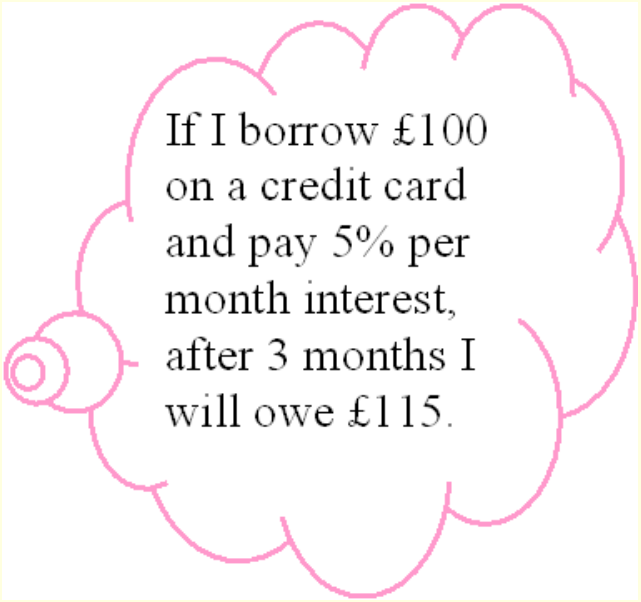
Decrease 1kg by 45%

The value of a car depreciates by 10% each year. A car is worth £3000; how much would it be worth after 3 years?

text book

page

354



Find out how much you will owe after 1 year!

Estimate!

30% of 29	67.5
15% of £4.50	8.7
27% of 1/2 a kilogram	40.32
72% of 56	135

game on page 190

To change a fraction to a percentage

1. Use your calculator to change it into a decimal
2. Multiply by 100

Here are some exam results. which was the highest mark?

English:

$\frac{20}{30}$

Maths

$\frac{27}{35}$

Geography

$\frac{45}{60}$

Science

$\frac{55}{90}$

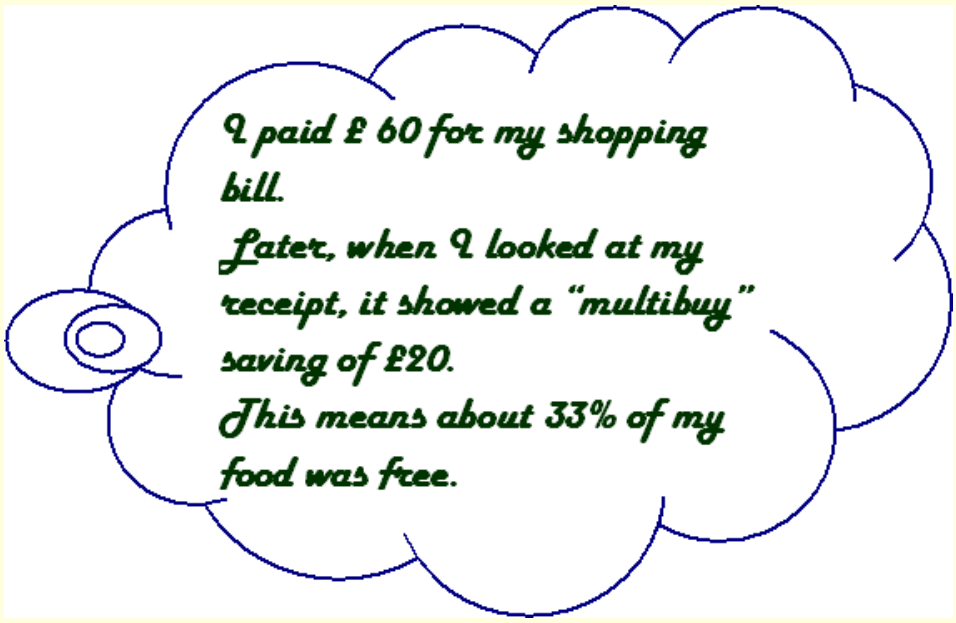
Changing Fractions to Percentages

Karen and Darren both came home with test results.
Karen had 8/10 for Maths and Darren had 11/15 for English.
Their parents gave Darren a bag of sweets for getting 11 but made Karen do extra homework for getting only 8.
How fair is that?

Suppose you had 5/10 for a test...

..as a percentage?

See page 191


I paid £ 60 for my shopping bill.
Later, when I looked at my receipt, it showed a "multibuy" saving of £20.
This means about 33% of my food was free.

www estimating percentages sheet

matching chocolate percent

empty the rocket

pop the balloons

Attachments

f,p,decimals.doc

percentages homework.doc