

NUMBER 3

How many of these can you read correctly?



Write down these numbers in digits:

- a) Two hundred and 6 206
- b) Three thousand and seventeen 3017
- c) Two million 2 000 000
- d) one hundred and forty two thousand 142 000
- e) 7 tenths 0.7

Write down these numbers in words:

- a) 408
- b) 10 004
- c) 500 000
- d) 0.16
- e) 23 000 000

4015.328

Multiplying and dividing by 10, 100, 1000....

Complete the pattern:

$$22 \times 1 = 22$$

$$22 \times 10 = 220$$

$$22 \times 100 = 2200$$

$$22 \times 1000 = 22000$$

$$22 \times 10000 = 220000$$

$$22 \times 100000 = 2200000$$

$9.21 \times 10 = 92.1$	$101 \times 10 = 1010$	$4.2 \times 10 = 42$
$45 \times 10 = 450$	$76 \times 10 = 760$	$1005 \times 10 = 10050$
$204 \times 10 = 2040$	$6.7 \times 10 = 67$	

$9.21 \times 100 = 921$	$101 \times 100 = 10100$	$4.2 \times 100 = 420$
$45 \times 100 = 4500$	$76 \times 100 = 7600$	$1005 \times 100 = 100500$
$204 \times 100 = 20400$	$6.7 \times 100 = 670$	

Dividing by 10,100,1000

$$22 \div 1000 = 0.022$$

$$22 \div 100 = 0.22$$

$$22 \div 10 = 2.2$$

$$22 \div 1 = 22$$

$$22 \div 0.1 = 220$$

9.21

= 0.921

101
10.1

4.2

0.42

45

4.5

76

7.6

1005

100.5

204 20.4

6.7
0.67

÷ 10

12.7

101

0.2

45

76

1005

204

6.7

÷ 100

page 352 ex 15 and 16

9.21

18.42 } x20
184.2

101 } x20
202 }
2020

4.2 }
8.4 }
84

45 }
900

76 }
152 }
1520

1005 }
2010 }
12+1.4 20100

204

408 → 4080

6.7 }
13.4 }
134

x20

page 356 ex 5,6,7

9.21

$$\begin{array}{r} 18.42 \\ 9.21 \\ \hline 27.63 \\ 45 \end{array}$$

$$\begin{array}{r} 101 \\ 9.21 \\ \times 3 \\ \hline 27.63 \end{array}$$

$$4.2 \times 800$$

$$= 3360$$

$$\begin{array}{r} 8.4 \\ 16.8 \\ 33.6 \end{array}$$

$$1005 \times 800$$

$$(\times 2) 2010$$

$$(\times 4) 4020$$

$$(\times 8) 8040$$

$$\begin{array}{r} \rightarrow \\ 804000 \end{array}$$

$$9.21$$

$$9.21$$

$$9.21$$

$$204$$

$$7620$$

$$6.7 \times 800 = 5360$$

$$(\times 2) 13.4$$

$$(\times 4) 26.8$$

$$(\times 8) 53.6$$

page 356 ex 5,6,7

Division

Easy

$$\begin{array}{r} 1210 \\ 3 \overline{) 3630} \end{array} \quad \begin{array}{r} 1020 \\ 4 \overline{) 4080} \end{array} \quad \begin{array}{r} 42307 \\ 2 \overline{) 84602} \end{array}$$

$84602 \div 2$

$$\begin{array}{r} 2610 \\ 3 \overline{) 6030} \end{array} \quad | \quad \begin{array}{r} 8480 \div 4 \\ 2120 \\ 4 \overline{) 8480} \end{array} \quad \begin{array}{r} 430321 \\ 2 \overline{) 860642} \end{array}$$

Medium

$$\begin{array}{r} 1040 \\ 3 \overline{) 3120} \\ 1 \end{array} \quad \begin{array}{r} 103 \\ 4 \overline{) 412} \\ 1 \end{array} \quad \begin{array}{r} 1725 \\ 2 \overline{) 34502} \\ 1 1 \end{array}$$

$$\begin{array}{r} 1502 \\ 3 \overline{) 4506} \\ 1 \end{array} \quad \begin{array}{r} 240 \\ 4 \overline{) 960} \\ 1 \end{array} \quad \begin{array}{r} 28205 \\ 2 \overline{) 56410} \\ 1 \end{array}$$

$56410 \div 2$

Hard

$$\begin{array}{r} 342 \\ 3 \overline{) 1026} \\ 1 1 \end{array} \quad \begin{array}{r} 1525 \\ 4 \overline{) 6100} \\ 2 1 2 \end{array} \quad \begin{array}{r} 57310 \div 2 \\ 28655 \\ 2 \overline{) 57310} \\ 1 1 1 1 \end{array}$$
$$\begin{array}{r} 2107 \\ 3 \overline{) 2107} \\ 2 2 \end{array} \quad \begin{array}{r} 900 \div 4 \\ 225 \end{array} \quad \begin{array}{r} 2) 75986 \\ 1 1 1 1 \end{array}$$

Try these:

- 1) $453 \div 3 = 151$
- 2) $456 \div 6 = 76$
- 3) $721 \div 7 = 103$
- 4) $4675 \div 5 = 935$
- 5) $9297 \div 9 = 1033$
- Ext
- 6) $9208 \div 8 = 1151$
- 7) $1287 \div 9 = 143$
- 8) $8344 \div 7 = 1192$

Dividing by 20,30...

Divide by 2 and by 10.

$$\begin{array}{l} 240 \\ 120 \\ 2 \end{array}$$
$$460 \div 20 = 23$$
$$68 \div 2 = 34$$
$$300 \div 20 = 15$$
$$900 \div 20 = 45$$
$$84 \div 2 = 42$$
$$500 \div 20 = 25$$
$$510 \div 20 = 25.5$$

Divide by 30

a) $300 \div 30 = 10$

b) $360 \div 30 = 12$

c) $120 \div 30 = 4$

d) $420 \div 30 = 14$

e) $510 \div 30 = 17$

$$3 \overline{) 360}$$

Try these:

1) $450 \div 90 = 5$

2) $7070 \div 70 = 101$

3) $2460 \div 60 = 41$

4) $3515 \div 50 = 70.3$

5) $8160 \div 800 = 10.2$

Ext:

6) $34120 \div 400 = 85.3$

7) $560 \div 800 = 0.7$

8) $81620 \div 700 = 116.6$

$$\begin{array}{r} 70.3 \\ 5 \overline{) 351.5} \\ \underline{35} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \end{array}$$
$$9) 230400 \div 90 = 2560$$
$$10) 1778 \div 700 = 2.54$$

Homework

For Tuesday

page 358 Ex 9, 10, 11

0.362 Ex 16

optional
↓

Multiplying and dividing by powers of 10

$$\begin{array}{lll} 10^2 & 10^3 & 10^4 \\ = 10 \times 10 & = 10 \times 10 \times 10 & = 10 \times 10 \times 10 \times 10 \\ = 100 & = 1000 & = 10\,000 \end{array}$$

$$3 \times 10^2 = 3 \times 100 = 300$$

$$3.9 \times 10^2 = 3.9 \times 100 = 390$$

$$3 \times 10^3 = 3000$$

$$0.33 \times 10^2 = 33$$

$$0.453 \times 10^2 = 45.3$$

$$3.4 \div 10^2 = 0.034$$

$$8.92 \div 10^3 = 0.00892$$

Work out as many of these as you can.

$$44 \times 10 = 440$$

$$48 \div 100 = 0.48$$

$$45 \div 100 = 0.45$$

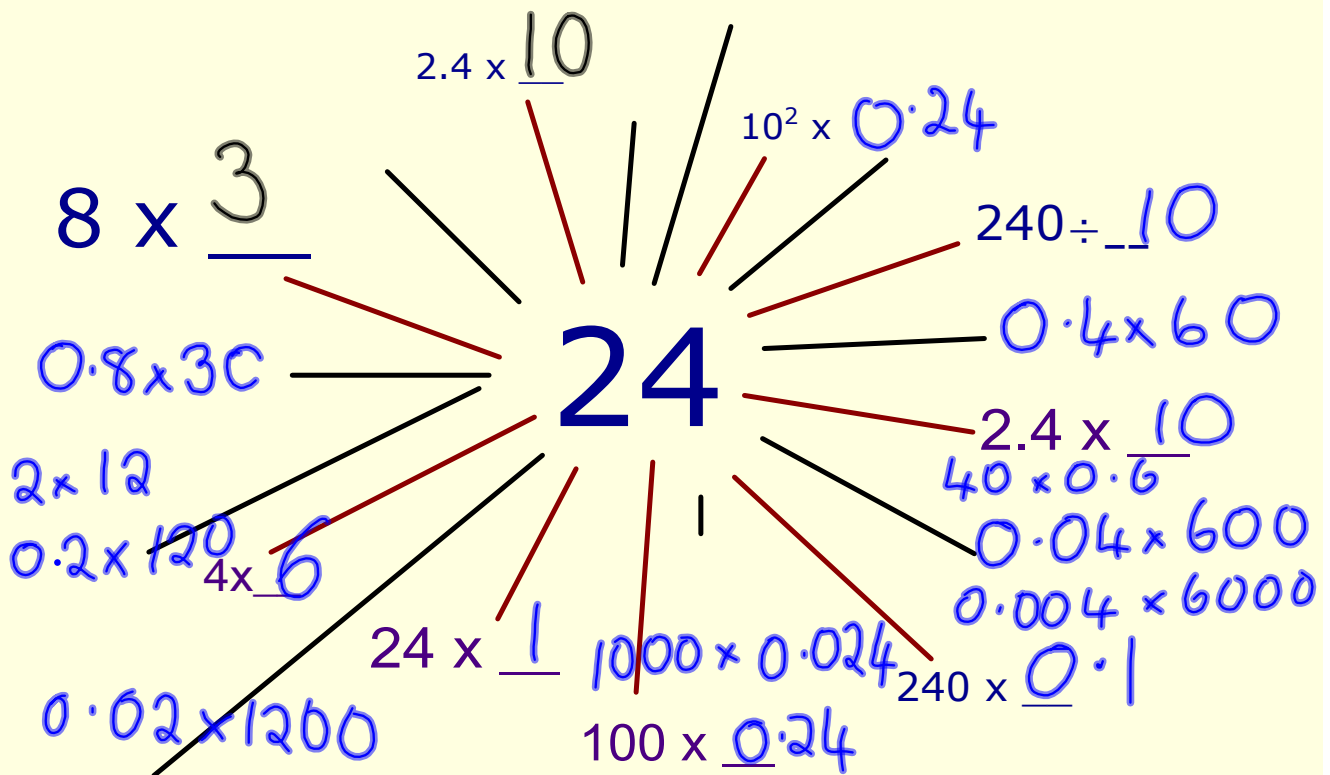
$$0.3 \times 100 = 30$$

$$7 \div 100 = 0.07$$

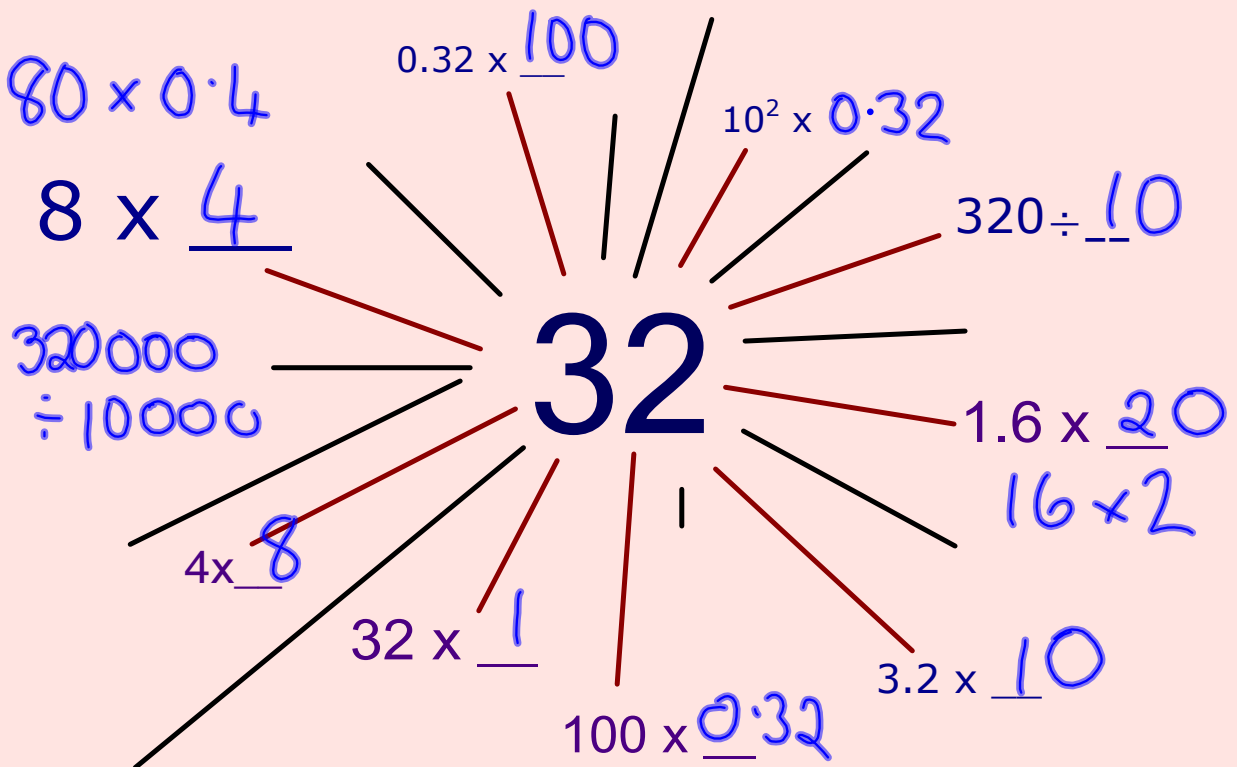
$$36 \times 200 = 7200$$

$$4.4 \times 10^3 = 4400$$

Complete the sums and add 10 of your own
(multiplication or division)



Complete the sums and add 10 of your own
(multiplication or division)



Useful Tricks with Multiplying

3 x 49 is almost.. $3 \times 50 = 150$

$$\begin{array}{r} - \quad 3 \\ \hline 147 \\ = \end{array}$$

7 x 61 is almost $7 \times 60 = 420$

(7)

$$\begin{array}{r} 71 + \quad 7 \\ \hline 427 \\ = \end{array}$$

9 x 23 is ..almost $9 \times 20 = 180$

$$\begin{array}{r} + \quad 9 \times 3 = 27 \\ \hline 207 \end{array}$$

52 x 6 is ..almost $50 \times 6 = 300$

$$\begin{array}{r} 2 \times 6 = 12 \\ \hline 312 \\ \hline \end{array}$$

Ordering decimals

Albin	
Amber	
Callum	Andrew
Luke	Ann
Lydia	Annabelle
	Anne

Ordering decimals

0.09999
0.5
0.59
0.595
5.5

Pink

purple

Green
~~yellow~~

yellow
~~green~~

0.82
2.099
2.8
2.82

1.01
1.011
1.101
1.11

0.02
0.12
0.202
0.29

0.09
0.79
0.9
0.99

1.11

bbc

Adding and Subtracting Decimals

Keep the decimal points underneath each other!

$$2.34 + 83.1$$

$$52.67 - 3.083$$

$$1) 5.64 + 2.431 = 8.071$$

$$2) 56.8 - 32.71 = 24.09$$

Ext

$$6.5 - 2.86$$

$$3) 120 + 3.5601 = 123.5601$$

$$= 3.64$$

$$4) 12 - 4.5 = 7.5$$

$$5) 54.97 + 23.865$$

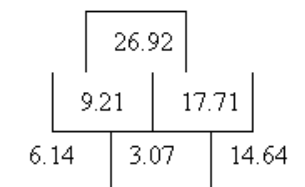
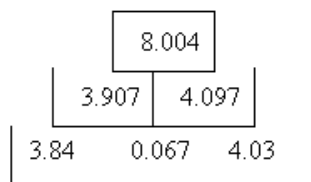
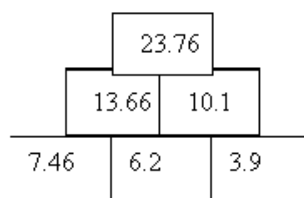
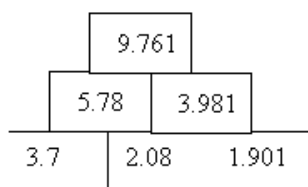
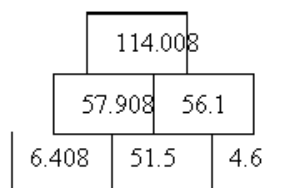
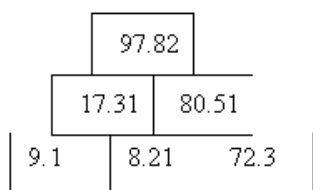
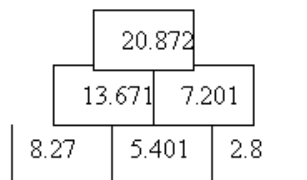
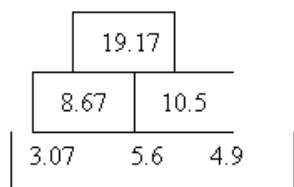
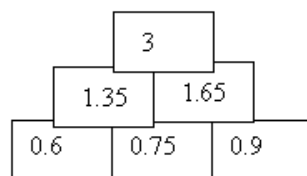
$$\begin{array}{r} 78.835 \\ \hline 4.065 \end{array}$$

↘ This one is hard!
Take it slowly!

$$6) 12.01 - 7.945 = \underline{\underline{3.185}}$$

Decimal Pyramids (ext)

Add bricks next to each other to form the brick on top.
The first one has been started for you.



Subtracting decimals

1) $3.7 - 2.8$

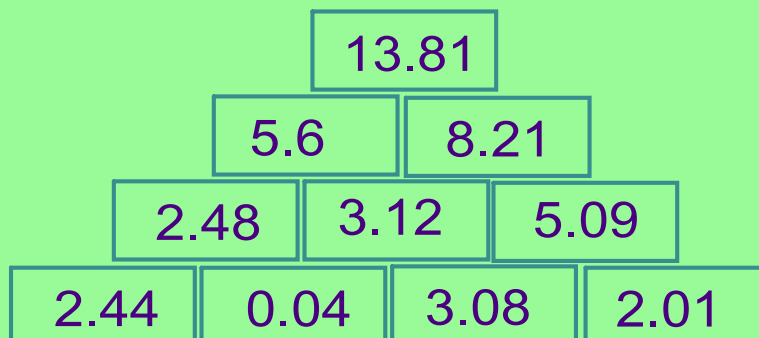
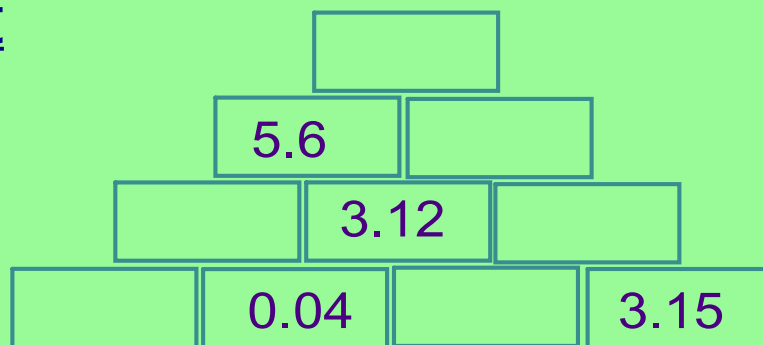
2) $4.5 - 2.9$

3) $4.5 - 1.04$

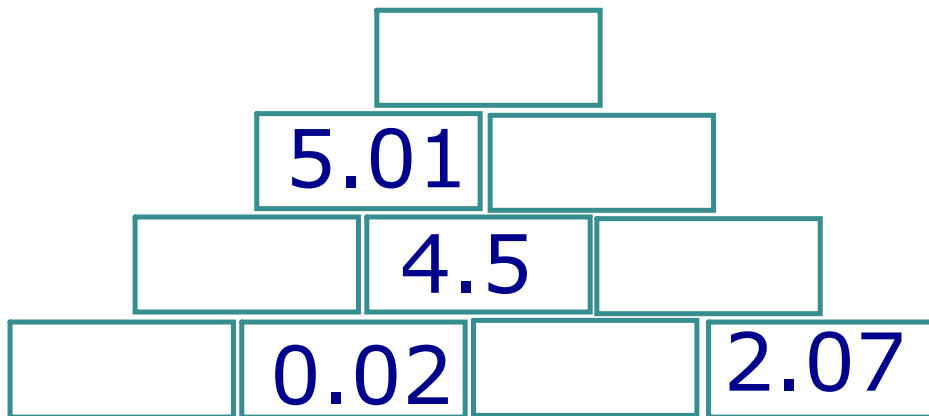
4) $12.2 - 6.09$

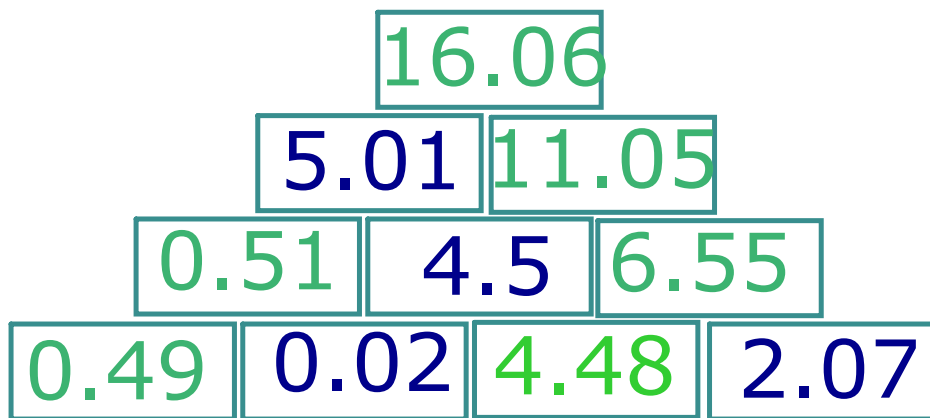
5) $34.62 - 7.891$

Ext



Ext





- 1) $0.9 + 0.1 =$
- 2) $0.5 - 0.4 =$
- 3) Write three tenths in decimals.
- 4) Write 0.2 in fractions.
- 5) $1.0 - 0.3 =$
- 6) What is nine tenths subtract 0.3?
- 7) $0.4 + 0.4 =$
- 8) $0.8 + 0.2 =$
- 9) $0.8 - 0.3 =$
- 10) $0.3 + 0.2 - 0.4 =$
- 11) $0.8 - 0.2 =$
- 12) What is eight tenths add 0.1?
- 13) Write 0.1 in fractions.
- 14) $0.1 + 0.2 + 0.3 =$
- 15) $0.6 - 0.4 =$
- 16) What is 0.4 add three tenths?
- 17) Write nine tenths in decimals.
- 18) $0.6 + 0.3 - 0.2 =$
- 19) What is five tenths subtract 0.3?
- 20) $0.1 + 0.8 =$
- 21) $0.6 + 0.2 + 0.1 =$
- 22) What is five tenths add 0.5, subtract 0.2?
- 23) Write 0.7 in fractions.
- 24) What is 0.2 add seven tenths?
- 25) $0.3 + 0.6 - 0.2 - 0.5 =$

- 1) $0.9 + 0.1 = 1$
- 2) $0.5 - 0.4 = 0.1$
- 3) Write three tenths in decimals= 0.3
- 4) Write 0.2 in fractions=2/10
- 5) $1.0 - 0.3 = 0.7$
- 6) What is nine tenths subtract 0.3? 0.6
- 7) $0.4 + 0.4 = 0.8$
- 8) $0.8 + 0.2 = 1.0$
- 9) $0.8 - 0.3 = 0.5$
- 10) $0.3 + 0.2 - 0.4 = 0.1$
- 11) $0.8 - 0.2 = 0.6$
- 12) What is eight tenths add 0.1? 0.9
- 13) Write 0.1 in fractions. 1/10
- 14) $0.1 + 0.2 + 0.3 = 0.6$
- 15) $0.6 - 0.4 = 0.2$
- 16) What is 0.4 add three tenths? 0.7
- 17) Write nine tenths in decimals 0.9
- 18) $0.6 + 0.3 - 0.2 = 0.7$
- 19) What is five tenths subtract 0.3? 0.2
- 20) $0.1 + 0.8 = 0.9$
- 21) $0.6 + 0.2 + 0.1 = 0.9$
- 22) What is five tenths add 0.5, subtract 0.2? 0.8
- 23) Write 0.7 in fractions. = 7/10
- 24) What is 0.2 add seven tenths? 0.9
- 25) $0.3 + 0.6 - 0.2 - 0.5 = 0.2$

How many of these can you do in 3 minutes?

$$0.6 \times 100 = 60$$

$$6 \div 100 = 0.06$$

$$6 \div 200 = 0.03$$

$$0.6 \div 100 = 0.006$$

$$7 \times 10 = 70$$

$$0.06 \times 200 = 12$$

$$0.6 \times 200 = 120$$

$$460 \div 20 = 23$$

$$0.6 \div 200 = 0.003$$

$$0.006 \div 100 = 0.00006$$

$$= 23\ 000$$

$$23 \times 1000$$

$$6 \times 200 = 1200$$

level 4: 3-5
level 5: 6-9
level 6: 10+

Using Decimals to solve problems.

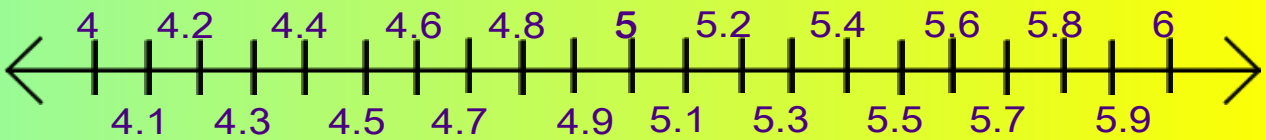
Find the total length of two snakes put end to end if the mother is 1m 3cm and the baby 9.5 cm.

What is the difference in their lengths?

If the mother has a repeating pattern on her skin that is 20cm long how many complete cycles of the pattern are there?

If the mother had 11 babies all 9.5cm and they were placed alongside her, end-to-end, would they be longer or shorter than her?

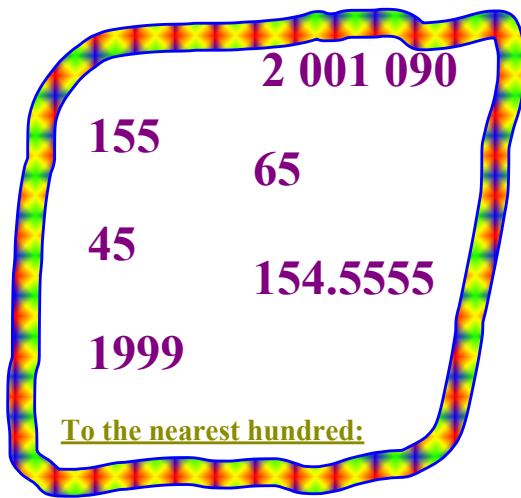
Rounding to 1 decimal place



page 40 1-3

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Rounding to a fixed number of decimal places.



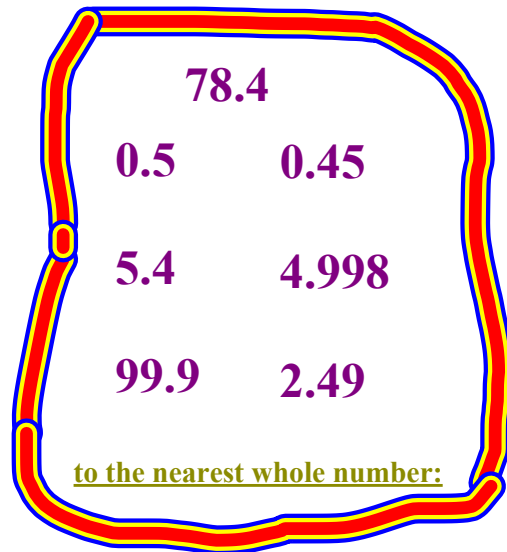
2 001 090

155 65

45 154.5555

1999

To the nearest hundred:



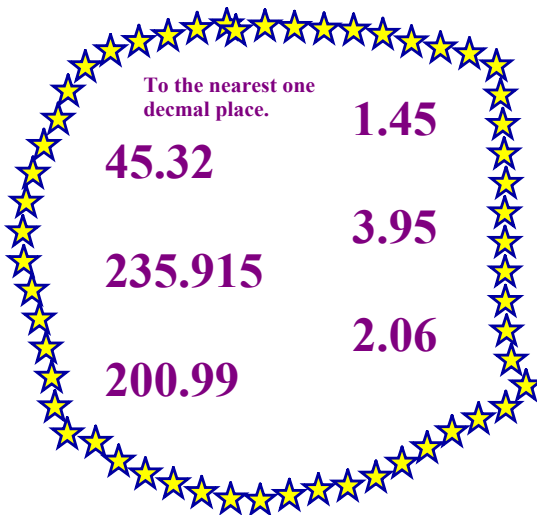
78.4

0.5 0.45

5.4 4.998

99.9 2.49

to the nearest whole number:

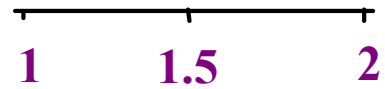


To the nearest one decimal place.

45.32 1.45

235.915 3.95

200.99 2.06



To round to one dp
look at the number in
the second dp.
no < 5, leave it;
no ≥ 5, round up.

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Worksheet.wow. decimal
place match level 6

Plenary : see attachment

Rounding to 1 decimal place

Use your calculator to find the square root...

	calculator display	to the nearest whole number	to one decimal place
$\sqrt{1}$	1	1	1.0
$\sqrt{2}$	1.4142	1	1.4
$\sqrt{3}$	1.732050	2	1.7
$\sqrt{4}$	2	2	2.0
$\sqrt{5}$	2.236067	2	2.2
$\sqrt{6}$			
$\sqrt{7}$			
$\sqrt{8}$			
$\sqrt{9}$			
$\sqrt{10}$			
$\sqrt{11}$			
$\sqrt{12}$			

estimating
page 40

Estimating

$$2.1 \times 3.8 = 2 \times 4 \\ = 8$$

$$49 \times 61 = 50 \times 60 \\ = 3000$$

$$198 \times 603 = 200 \times 600 \\ = 120000$$

Estimate:

$$4.6 \times 3.1 \approx 5 \times 3 = 15$$

Homework for
Tuesday.

Make up 20
multiplication or
division sums with an
answer of 36.

$$2.3 \times 0.4 = 0.92 \quad 23 \times 0.4 = 9.2$$

$$\begin{array}{r} 23 \times 4 = 92 \\ 80 \quad + 12 \\ 46 \rightarrow 92 \end{array}$$

$$2.3 \times 4 = 9.2 \quad 0.23 \times 4 = 0.92$$

Decimals and Multiplication

$$3.1 \times 0.4 = 1.24$$

$$31 \times 0.4 = 12.4$$

$$31 \times 4 = 124$$

$$3.1 \times$$

$$3.1 \times 4 = 12.4$$

$$0.31 \times 4 = 1.24$$

Long Multiplication with decimals

$$2.3 \times 4.2 = 9.66$$

$$23 \times 42 = 966$$

	20	3
40	800	120
2	<u>40</u>	<u>6</u>
	840	+126
		966

$$7.1 \times 23 = 163.3$$

$$34 \times 7.2 = 244.8$$

$$0.43 \times 17 = 7.31$$

Ext:

$$0.123 \times 96 \checkmark$$
$$= 11.808$$

Matching game

35	43	67	83	97	48	58	123
----	----	----	----	----	----	----	-----

3216	3395	6499	2905
6499	3569	3886	8051
2064	3984	4656	4305
1505	2784	5561	2494

Long Division

$$672 \div 12 = 56$$

Method 1

$$\begin{array}{r} 56 \\ 12 \overline{) 672} \\ \underline{-60} \\ 72 \\ \underline{-72} \\ \hline \end{array}$$

$$1537 \div 53$$

$$3213 \div 63$$

Method 2

$$\begin{array}{r} 12 \times 10 = 120 \\ 12 \times 10 = 120 \\ \hline 240 \\ 12 \times 10 \quad \underline{120} \\ 360 \\ 12 \times 20 \quad \underline{240} \\ 600 \\ 12 \times 5 \quad \underline{60} \\ 660 \\ 12 \times 1 \quad \underline{12} \\ 672 \end{array}$$

$$1722 \div 82$$

$$1) 748 \div 68 = 11$$

$$2) 792 \div 36 = 22$$

$$3) 1705 \div 55 = 31$$
$$\begin{array}{r} 68 \times 10 = 680 \\ 68 \times 1 = \underline{68} \\ \hline 748 \end{array}$$

$$\begin{array}{r} 36 \times 10 = 360 \\ 36 \times 10 = 360 \\ \hline 720 \\ 36 \times 2 = \underline{72} \\ \hline 792 \end{array}$$

$$\begin{array}{r} 55 \times 10 = 550 \\ 55 \times 20 = 1100 \\ \hline 1650 \\ 55 \times 1 \quad \underline{55} \\ \hline 1705 \end{array}$$

page 360 ex 12

Write a word problem that requires you to do the sum $26 \div 6$?



When might the answer be 4?

When might the answer be 5?

Using a calculator

In your head do the following sums:

$$\frac{10}{2+3}$$

$$-3^2$$

$$\sqrt{4+5}$$

$$\frac{7+5}{6}$$

Try:

$$\frac{120}{20+4}$$

$$\sqrt{2 \times 2 \times 6^2}$$

$$10^2 - 2.3^3$$

$$-9^2 + 4^3$$

$$2^5$$

$$7^4$$

page 45 Qu 2a

Exercise 2.12

Homework

For Tuesday:

1) $7800 \div 312$

2) Page 46 Qu 7 parts 1-7

Qu 4 together:

4) 73×84

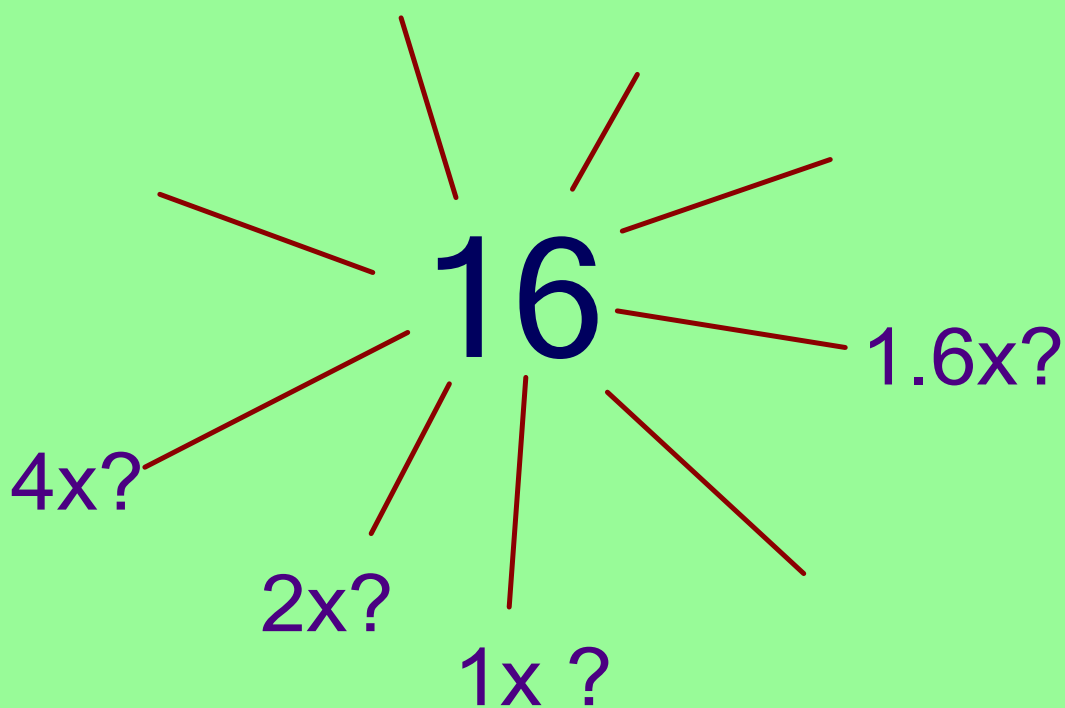
a) $70 \times 80 = 5600$

ii) The estimate is a bit low

b) 73×84
 $= 6132$

	70	3
80	5600	240
4	280	12
	<u>5880</u>	<u>252</u>

How many multiplication sums can you construct with an answer of 16?



Read and write positive integer powers of 10; multiply and divide integers and decimals by 0.1, 0.01.

Order decimals

Round positive numbers to any given power of 10; round decimals to the nearest whole number or to one or two decimal places.

Consolidate and extend mental methods of calculation, working with decimals, squares and square roots, cubes and cube roots; solve word problems mentally.

Consolidate standard column procedures for addition and subtraction of integers and decimals with up to two places.

Use standard column procedures for multiplication and division of integers and decimals, including by decimals such as 0.6 or 0.06; understand where to position the decimal point by considering equivalent calculations.

Make and justify estimates and approximations of calculations

Enter numbers and interpret the display of a calculator in different contexts (negative numbers, fractions, decimals, percentages, money, metric measures, time).

Check a result by considering whether it is of the right order of magnitude and by working the problem backwards

Carry out more difficult calculations effectively and efficiently using the function keys of a calculator for sign change, powers, roots and fractions; use brackets and the memory.

Attachments

rounding to 1 dp.xbk

15RandNos.xls