

Decimals

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Decimals

1 Highlight the largest number

0.4 0.3 0.8 1.2 0.7

2 Highlight the largest number

0.42 0.4 0.3 0.5 0.2

3 Highlight the largest number

0.41 0.45 0.04 0.402 0.4

Fill in the missing numbers

0.6 0.7 0.8 0.9

Fill in the missing numbers

0.3 0.4 0.5 0.6

Fill in the missing numbers

1.5 1.6 1.7 1.8

Fill in the missing numbers

0.11 0.12 0.13 0.14

Fill in the missing numbers

0.25 0.26 0.27 0.28

Write these in order of size, smallest to largest

0.4 0.3 0.12 1.2 1.01

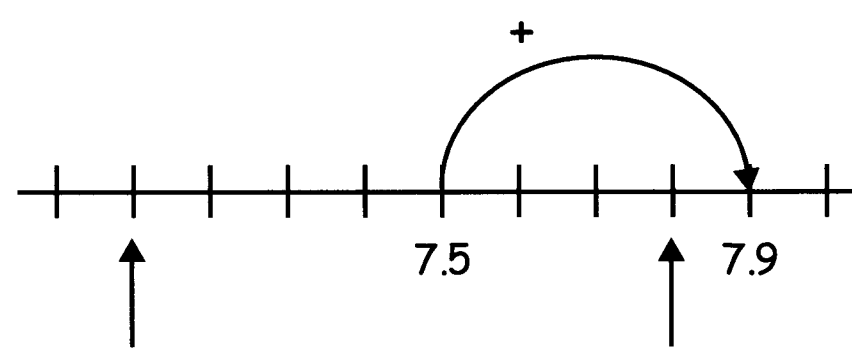
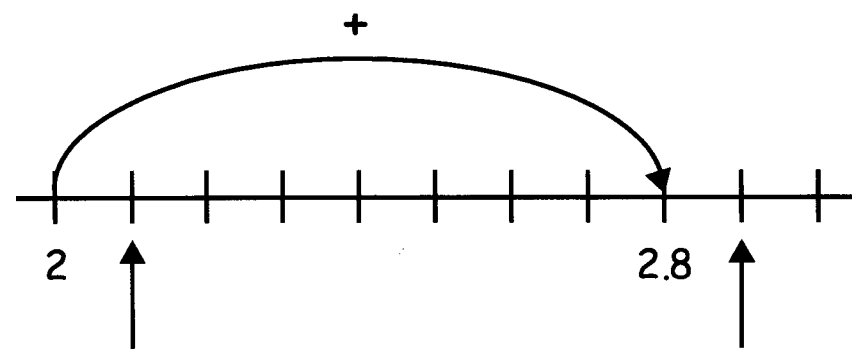
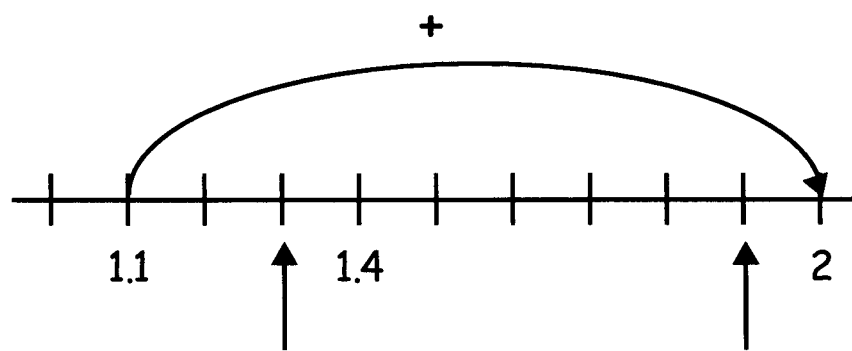
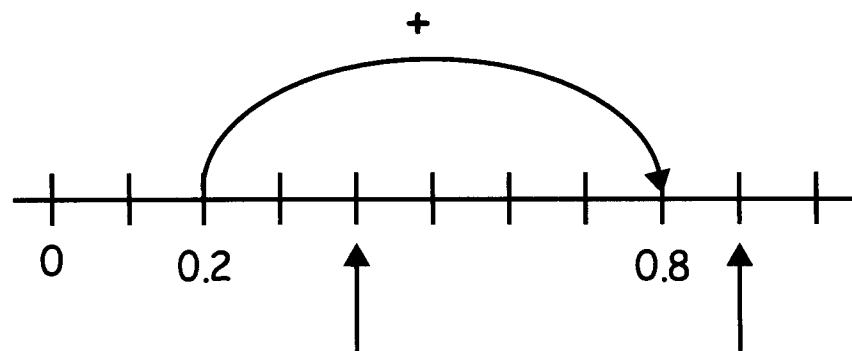
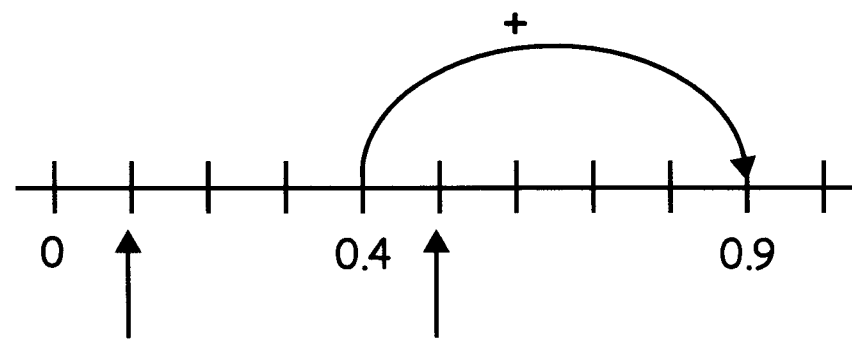
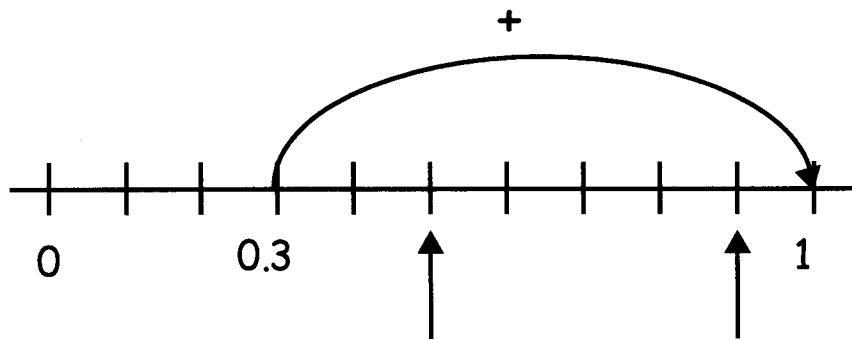
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Write these in order of size, smallest to largest

0.3 0.32 0.03 0.2 0.23

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For each scale, write down the numbers that the arrows are pointing to and the number you have to add to make the jump



②

Decimals - Add, take, times and divide

Adds (line numbers in their columns)

1) $8 + 0.6$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	

2) $0.3 + 0.8$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	

3) $1.2 + 0.86$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	

4) $12 + 8.2 + 0.8$

10	1	0.1	0.01
		•	
		•	
		•	
<hr/>			
		•	

5) $0.38 + 6 + 0.04$

10	1	0.1	0.01
		•	
		•	
		•	
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		•	

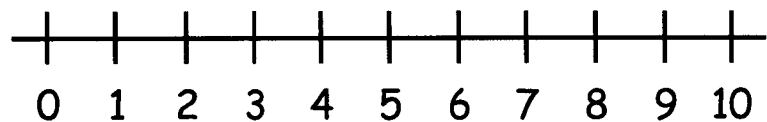
6) $0.08 + 12.2 + 0.8$

10	1	0.1	0.01
		•	
		•	
		•	
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		•	

Takes

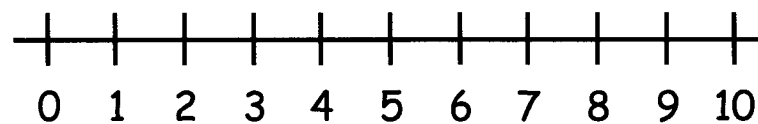
7) $7.4 - 1.6$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	



9) $10 - 2.6$

10	1	0.1	0.01
		•	
		•	
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		•	



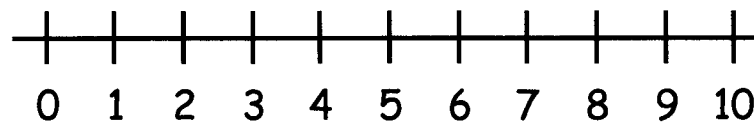
8) $8.2 - 3.7$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	



10) $9.4 - 4.8$

10	1	0.1	0.01
		•	
		•	
<hr/>			
		•	



Multiplication

11) 3×0.4

$3 \times 4 =$

12) 6×0.3

$6 \times 3 =$

13) 5×0.4

14) 0.4×7

15) 0.6×8

\times	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Division

16) $3.2 \div 4$

$32 \div 4 =$

17) $1.2 \div 4$

$12 \div 4 =$

18) $2.5 \div 5$

19) $2.4 \div 8$

20) $3.6 \div 6$

5

Qu. 1

	1000	100	10	1	•	0.1	0.01	0.001
4 x 8					•			
40 x 8					•			
40 x 80					•			
0.4 x 8					•			

Qu. 2

	1000	100	10	1	•	0.1	0.01	0.001
3 x 7					•			
3 x 70					•			
0.3 x 7					•			
0.3 x 0.7					•			

Qu. 3

	1000	100	10	1	•	0.1	0.01	0.001
6 x 7					•			
6 x 70					•			
60 x 70					•			
6 x 0.7					•			

Qu. 4

	1000	100	10	1	•	0.1	0.01	0.001
2 x 9					•			
0.2 x 9					•			
2 x 0.9					•			
0.2 x 0.9					•			

Qu. 5

	1000	100	10	1	•	0.1	0.01	0.001
4 x 6					•			
0.4 x 6					•			
4 x 0.6					•			
0.4 x 0.6					•			

Decimal Multiplication

- 1) 0.8×3
- 2) 6×0.7
- 3) 0.2×0.7
- 4) 0.04×0.6
- 5) 60×0.04
- 6) 700×0.008
- 7) 2.3×8

- 8) 6.4×2.8

- 9) 26×0.27

- 10) 0.26×0.57

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$$3 \times 4 = 12$$

$$30 \times 4 = 120$$

$$30 \times 40 = 1200$$

$$3 \times 4 = 12$$

$$0.3 \times 4 = 1.2$$

$$3 \times 0.4 = 1.2$$

$$0.3 \times 0.4 = 0.12$$

$$0.03 \times 0.4 = 0.012$$

$$3 \times 4 =$$

$$30 \times 0.4 =$$

$$300 \times 0.004 =$$

Decimal Division

- 1) $2.4 \div 4$
- 2) $3.2 \div 8$
- 3) $4.2 \div 6$
- 4) $14.1 \div 3$

- 5) $1.25 \div 5$

- 6) $7.2 \div 6$

- 7) $9.6 \div 6$

- 8) $23.8 \div 4$

- 9) $0.135 \div 5$

- 10) $0.054 \div 3$

⑦

Decimals

1) Add on 0.4 0.3, _____, _____, _____, _____

2) Add on 0.6 0.7, _____, _____, _____, _____

3) Add on 0.8 0.5, _____, _____, _____, _____

4) Take off 0.3 2.2, _____, _____, _____, _____

5) Take off 0.6 3.1, _____, _____, _____, _____

6) Take off 0.7 4.4, _____, _____, _____, _____

Work out the answers to

7) $4.8 + 3.1$

11) $5.4 - 2.3$

8) $4.0 + 1.8$

12) $4.2 - 1.5$

9) $3.4 + 1.9$

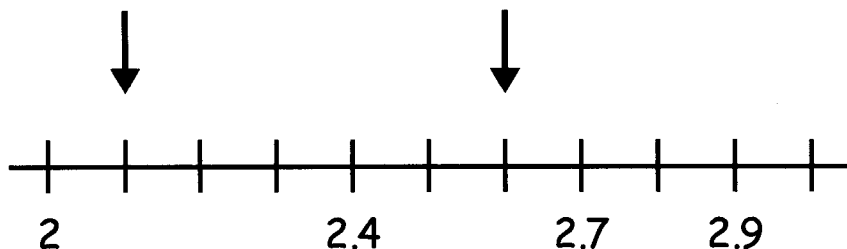
13) $5.0 - 2.7$

10) $7.6 + 7.5$

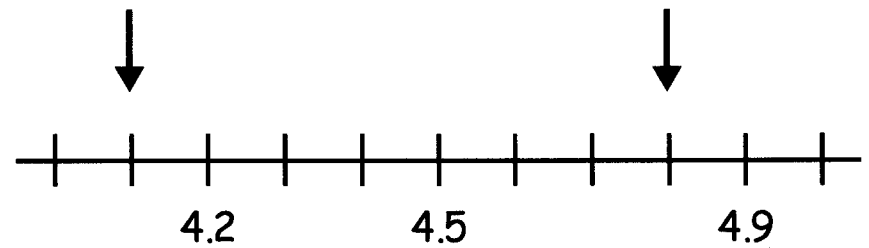
14) $3.0 - 1.6$

Write down the number the arrows are pointing to

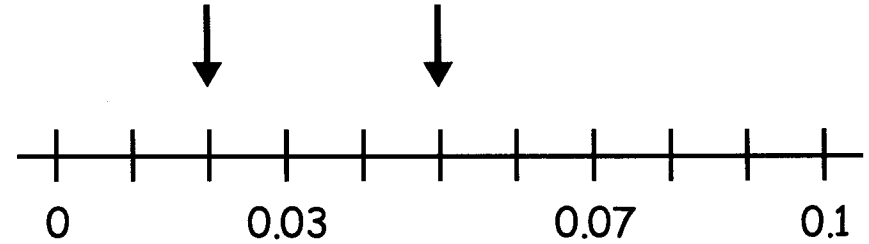
15)



16)



17)



18) Work out the answer to $8 + 1.6 + 0.9$

19) Write down the 0.3 times table.

$1 \times 0.3 =$

$6 \times 0.3 =$

$2 \times 0.3 =$

$7 \times 0.3 =$

$3 \times 0.3 =$

$8 \times 0.3 =$

$4 \times 0.3 =$

$9 \times 0.3 =$

$5 \times 0.3 =$

$10 \times 0.3 =$

20) 6×0.3

24) $1.2 \div 0.3$

21) 7×0.3

25) $1.5 \div 0.3$

22) 0.3×8

26) $2.4 \div 0.3$

23) 9×0.3

27) $0.9 \div 0.3$

28) 0.8×4

29) 1.2×3

30) $2.4 \div 6$

Decimals

Put either $>$ or $<$ between these decimals

1) 0.23 0.02

4) 0.254 0.8

2) 0.101 0.11

5) 0.623 0.632

3) 0.202 0.022

6) -1.01 0.101

Addition

7) $2.3 + 0.28$

9) $99 + 9.9 + 0.99$

8) $1.1 + 0.101 + 0.1$

10) $£5.23 + 68p + 7p$

Subtraction

11) $5.3 - 2.5$

13) $2 - 0.58$

12) $1.4 - 0.8$

14) $0.1 - 0.01$

Multiply and divide by powers of 10

15) 0.23×10

18) $5.3 \div 10$

16) 50.3×100

19) $425 \div 100$

17) 0.025×1000

20) $12.3 \div 1000$

Multiply

21) 0.3×7

24) 2.3×7

22) 4×0.8

25) 6.3×4

23) 0.6×0.8

26) 5.7×5

Division

27) $32.2 \div 7$

29) $0.464 \div 8$

28) $1.482 \div 6$

30) $0.2115 \div 9$

To divide by a decimal, multiply BOTH numbers by powers of 10 to remove the decimal from the number you are dividing by.

$$\begin{array}{r} 4.2 \div 0.06 \\ \times 100 \downarrow \quad \downarrow \times 100 \\ 420 \div 6 \end{array}$$

$$= 70 \quad \text{Note : you don't undo the } \times 100$$

1) $0.008 \div 0.04$

6) $54 \div 0.12$

2) $0.024 \div 0.4$

7) $8.58 \div 1.1$

3) $3.2 \div 0.08$

8) $80.4 \div 0.012$

4) $0.42 \div 0.006$

9) $0.391 \div 1.7$

5) $56 \div 0.08$

10) $95.2 \div 0.17$

Writing decimals as fractions

For terminating decimals, remember the column headings after the decimal point: tenths, hundredths, thousandths etc.

$$0.3 = \frac{3}{10} \quad 0.47 = \frac{47}{100} \quad 0.367 = \frac{367}{1000}$$

For recurring decimals use the following rules

If the recurring part is a single digit e.g. $0.222222\dots = 0.\dot{2}$, the fraction is over 9. $0.\dot{2} = \frac{2}{9}$

If the recurring part has two digits e.g. $0.292929\dots = 0.\dot{2}9$, the fraction is over 99. $0.\dot{2}9 = \frac{29}{99}$

If the recurring part has three digits e.g. $0.234234234\dots = 0.\dot{2}34$, the fraction is over 999.

$$0.\dot{2}34 = \frac{234}{999}$$

And so on.

Exercise 1

Write these decimals as fractions, cancel where possible

1) 0.2

6) $0.\dot{4}$

2) 0.24

7) $0.\dot{2}\dot{6}$

3) 0.74

8) $0.\dot{3}9\dot{6}$

4) 0.325

9) $0.\dot{3}$

5) 1.24

10) $0.\dot{2}\dot{7}$



Decimals

1) Give that $23 \times 37 = 851$, write the answers to the following

- a) 2.3×3.7 b) 0.23×370 c) 0.23×0.37
d) $851 \div 23$ e) $8.51 \div 2.3$ f) $8510 \div 0.37$

- 2) a) $9 + 0.04 + 0.87 + 0.3$ b) $4 - 1.47$
c) 0.6×0.3 d) 3.4×0.7
e) $2.4 \div 0.04$ f) $9.3 - 1.8 \div 0.3$

3) Write the following fractions as decimals

- a) $\frac{2}{5}$ b) $\frac{5}{8}$ c) $\frac{5}{6}$ d) $\frac{2}{11}$

4) Write the following decimals as fractions, cancel if possible.

- a) 0.8 b) 0.36 c) 0.25 d) 0.65

5) a) One metre of cable weighs 2.8 kg. How much does 3.5 metres of cable weigh?

b) Henry pays £1.88 for 0.4 kg of beef. Calculate the cost of 1 kg of beef.

6) Paul had a £30 voucher to spend at a Garden Centre. He bought 6 rose trees costing £2.85 each. He spent the rest on bulbs costing 30p each. How many bulbs did he buy?

7) Sally spent £24.18 at the DIY shop. She bought 0.6 litres of paint at £3.20 per litre, 5 coat hooks at £3.67 each and some screws. The screws were 17p each. How many screws did she buy?

8) A can weighs 0.08kg, holds 0.6 litres of drink and costs £0.45.

a) How much will 28 cans weigh?

b) How many cans are needed to provide 14.4 litres of drink?