



Main Maths

Home Learning Pack Year 6

Decimals

ANSWERS

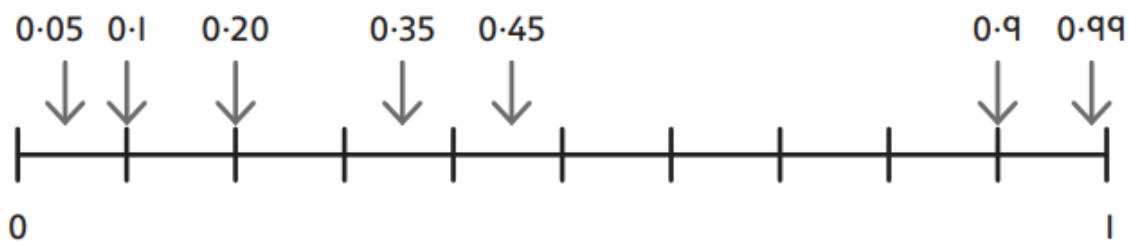
Week 1

4/1/2021

Day 1 Learning Question: How do I recognise and write decimals?

1. 0.7 0.75
 0.4 0.43
 0.6 0.62

2.



3. 0.23 – two 0.1 counters, three 0.01 counters
 0.03 – three 0.01 counters
 0.30 – three 0.1 counters
4. a) The value of the digit 4 in 0.34 is 4 hundredths.
b) 9 has the value of 9 tenths in the number 0.90
c) The value of the digit 5 in 0.5^* is 5 tenths
(* can be any digit)
d. You could put any digit, except 5, in the hundredths column and the statement will still be true, so there is more than one correct answer.
5. a) 0.28 b) 0.01
6. a) There are 18 possible answers: $0.10, 0.01, 0.21, 0.12, 0.32, 0.23, 0.43, 0.34, 0.54, 0.45, 0.65, 0.56, 0.76, 0.67, 0.87, 0.78, 0.98, 0.89$
b) Two possible answers: $0.09, 0.90$
c) There are only 10 digits, the largest digit being 9. So, there is only one pair of digits that have a difference of 9 (0 and 9). However, there are 9 pairs of digits with a difference of 1.

Day 2 Learning Question: How do I recognise and write decimals?

1. Numbers added to number line:

1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2

1.11 ... 1.13 ... 1.15, 1.16, 1.17, 1.18, 1.19, 1.2

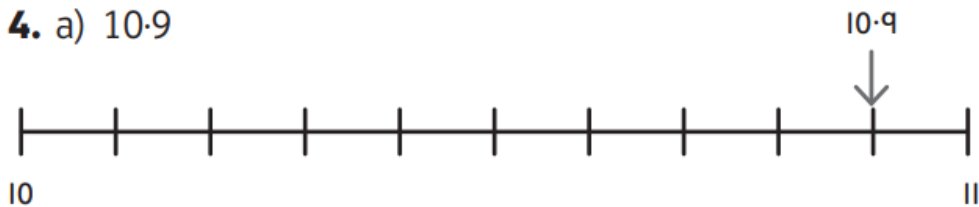
9.8, 9.9, 10, 10.1, 10.2, 10.3, 10.4, 10.5

5.66, 5.67, 5.68, 5.69, 5.7, 5.71, 5.72, 5.73, 5.74

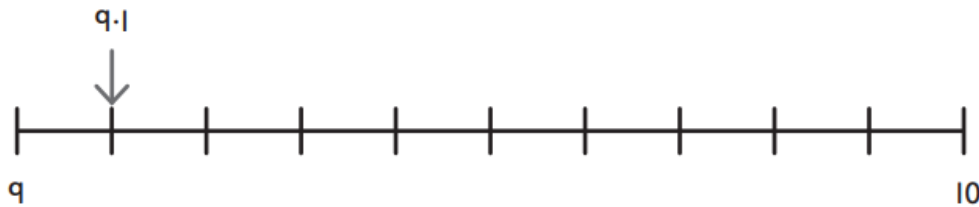
2. a) 1.4 c) 4.01
b) 5.59 d) 5.05

3. a) 1.3, 1.2, 1.1, 1, 0.9, 0.8, 0.7
b) 1.3, 1.31, 1.32, 1.33, 1.34, 1.35
c) 3.02, 3.01, 3, 2.99, 2.98, 2.97, 2.96
d) 5.9, 5.91, 5.92, 5.93, 5.94, 5.95, 5.96

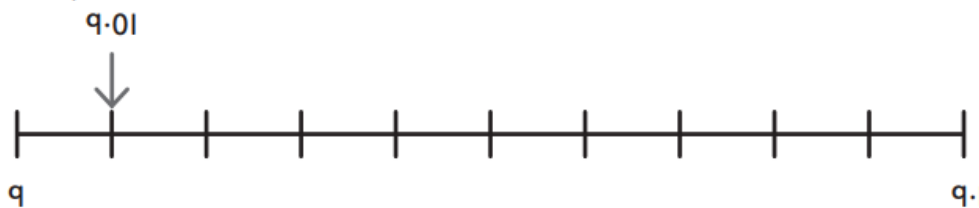
4. a) 10.9



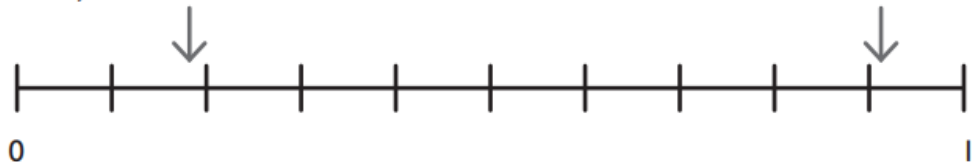
b) 9.1 (or 9.10)



c) 9.01



d) 0.19



5. a) 9.95 10.05
b) 99.5 100.5
c) 99.95 100.05
d) 999.5 1,000.5

Day 3 Learning Question: How do I show decimals as fractions?

1. a) $A = \frac{1}{10}$
 $B = \frac{3}{10}$
 $C = \frac{5}{10}$ or $\frac{1}{2}$
 $D = \frac{9}{10}$
b) $\frac{5}{10}$ can be simplified to $\frac{1}{2}$ as they are equivalent.

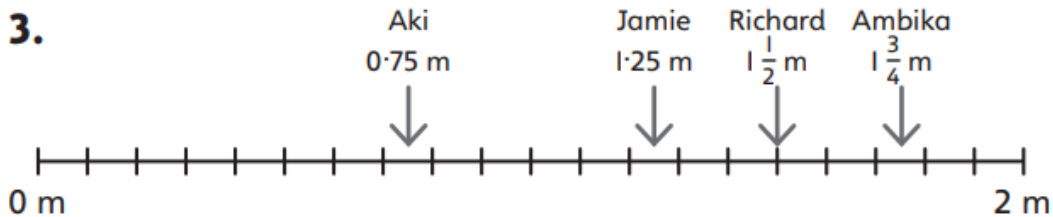
2. Place value counters drawn on grid:

$\frac{4}{10}$: 4 counters in Tths column

$2\frac{3}{4}$: 2 counters in O column, 7 counters in Tth column, 5 counters in Hth column

$1\frac{4}{10}$: 1 counter in O column, 4 counters in Tth column

$1\frac{1}{4}$: 1 counter in O column, 2 counters in Tth column, 5 counters in Hth column



Methods may vary. Children may say they converted the fractions to decimals first. Then they counted that there were 20 intervals between 0 m and 2 m so this meant that each interval was 0.1 m, and each half interval was 0.05 m.

4. a) 0.25 e) 1.5 i) $3\frac{1}{5}$ (or $3\frac{2}{10}$)
b) 0.5 f) 2.0 j) $3\frac{2}{5}$ (or $3\frac{4}{10}$)
c) 0.75 g) $\frac{3}{10}$ k) 1
d) 1.0 h) 1.5 l) $\frac{6}{3}$

5. Encourage children to use pictorial representations to see that $\frac{1}{5}$ is not the same as $\frac{1}{2}$ and therefore not 0.5.

Day 4 Learning Question: How do I show decimals as fractions?

1. a) $0.09 = \frac{9}{100}$ d) $0.03 = \frac{3}{100}$
b) $0.23 = \frac{23}{100}$ e) $0.7 = \frac{7}{10}$
c) $0.35 = \frac{35}{100}$ (or $\frac{7}{10}$) f) $0.9 = \frac{9}{10}$

2. Place value counters drawn on grid:

- a) $\frac{21}{100}$: no counters in O column, 2 counters in Tth column, 1 counter in Hth column
b) $\frac{21}{10}$: 2 counters in O column, 1 counter in Tth column, no counters in Hth column
c) $\frac{201}{100}$: 2 counters in O column, no counters in Tth column, 1 counter in Hth column

3. a) Numbers ticked: $\frac{11}{100}$ and 0.15
b) Numbers ticked: 2.80, 2.71 and $2\frac{87}{100}$

4. Answers will vary – any fraction, decimal or mixed number between 5.5 and 5.75.

Decimal = 5.6 Fraction = $\frac{45}{8}$ Mixed number = $5\frac{5}{8}$

5.

Decimal number	Mixed number	Improper fraction
1.61	$1\frac{61}{100}$	$\frac{161}{100}$
1.6	$1\frac{6}{10}$	$\frac{16}{10}$
2.26	$2\frac{26}{100}$	$\frac{226}{100}$
2.06	$2\frac{6}{100}$	$\frac{206}{100}$
4.6	$4\frac{60}{100}$	$\frac{460}{100} = \frac{46}{10}$

Day 5 Learning Question: What are thousandths?

1. a) $0.004 = \frac{4}{1,000}$
b) $0.024 = \frac{24}{1,000}$

2. a) 5 squares shaded
 $\frac{50}{1,000} = \frac{5}{100} = 0.05$
b) 90 squares shaded
 $\frac{900}{1,000} = \frac{90}{100} = \frac{9}{10} = 0.9$

3.

Decimal	0.002	0.02	0.251	0.25	0.2
Fraction	$\frac{2}{1,000}$	$\frac{20}{1,000}$	$\frac{251}{1,000}$	$\frac{250}{1,000}$	$\frac{200}{1,000}$

Decimal	1	1.001	1.251	1.25	0.000
Fraction	$\frac{1,000}{1,000}$	$\frac{1,001}{1,000}$	$\frac{1,251}{1,000}$	$1\frac{250}{1,000}$	$\frac{0}{1,000}$

4. a) $0.2 = 0.20 = 0.200$ $\frac{2}{10} = \frac{20}{100} = \frac{200}{1,000} (= \frac{1}{5})$
b) $0.07 = 0.070$ $\frac{7}{100} = \frac{70}{1,000}$
c) $0.35 = 0.350$ $\frac{35}{100} = \frac{350}{1,000} (= \frac{7}{20})$

5. a) Answers will vary. Parts should total $0.01 (= \frac{10}{1,000})$.
For example, $\frac{1}{1,000}$ and $\frac{2}{1,000}$ and $\frac{7}{1,000}$ or $\frac{5}{1,000}$ and $\frac{3}{1,000}$
and $\frac{2}{1,000}$.
b) Answers will vary. Parts should total $\frac{1,600}{1,000} (= 1.6)$.
For example 1 and $\frac{600}{1,000}$ or 1 and $\frac{6}{10}$ or $\frac{800}{1,000}$ and $\frac{800}{1,000}$
or $\frac{95}{100}$ and $\frac{65}{100}$.