

Grade 7 DECIMALS

NAME

GRADE

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Question 1 Use the table to help you decide which of the following pairs of decimals fractions is the greater.

For example:
Which is greater
0,5 or 0,097?

$0,5 > 0,097$

	thousands	hundreds	tens	units	tenths	hundredths	thousandths
				0	5		
				0	0	9	7
1.1							
1.2							
1.3							
1.4							
1.5							
1.6							
1.7							

Question 2 Complete these number sequences by finding the next four terms in each case:

- 2.1 0,7; 1,8; ____; ____; ____; ____; (add 1,1)
- 2.2 3,86; 3,88; ____; ____; ____; ____; (add 0,02)
- 2.3 10,0; 9,7; ____; ____; ____; ____; (subtract 0,3)
- 2.4 0,60; 0,54; ____; ____; ____; ____; (subtract 0,06)

Question 3 Complete these number sequences. Write down the rule in each case.

- 3.1 0,08; ____; 0,24; 0,32; ____; 0,48; 0,56; 0,64 ()
- 3.2 40; 20; 10; 5; ____; 1,25; ____; 0,3125 ()
- 3.3 7,5; 7,25; ____; ____; 6,5; 6,25; 6 ()

Question 4 Write these numbers in ascending order (i.e. from smallest to biggest).

- 4.1 2,53; 4,68
- 4.2 2,54; 3,182; 3,65
- 4.3 1,234; 2,34; 1,34
- 4.4 2,60; 2,06; 2,161

Question 5 Write the following numbers in decimal form:

5.1 nine and three tenths

5.2 seventeen and four hundredths

5.3 three hundredths and seven thousandths

5.4 seven hundredths

5.5 six and two tenths and one hundredths

Question 6 Convert the following fractions to decimal fractions:

6.1 $\frac{1}{5}$

6.2 $\frac{1}{2}$

6.3 $\frac{1}{20}$

6.4 $\frac{4}{5}$

6.5 $\frac{3}{20}$

6.6 $1\frac{1}{2}$

6.7 $\frac{2}{5}$

6.8 $\frac{1}{4}$

6.9 $\frac{3}{5}$

6.10 $\frac{1}{8}$

Question 7 Convert the following decimals to common fractions:

7.1 0,2

7.2 0,02

7.3 0,4

7.4 0,15

7.5 1,25

7.6 0,002

7.7 0,004

Write the decimals for each of the following fractions and learn them off by heart.

$\frac{1}{2} =$	$\frac{1}{5} =$	$\frac{1}{8} =$
$\frac{1}{4} =$	$\frac{2}{5} =$	$\frac{3}{8} =$
$\frac{3}{4} =$	$\frac{3}{5} =$	$\frac{5}{8} =$
	$\frac{4}{5} =$	$\frac{7}{8} =$

Also learn these two off by heart.

$\frac{1}{3} =$	$\frac{2}{3} =$
-----------------	-----------------

Question 8

Convert the following fractions to decimal fractions:

8.1 $\frac{3}{4}$

8.2 $\frac{9}{20}$

8.3 $\frac{27}{50}$

8.4 $\frac{1}{8}$

8.5 $\frac{13}{25}$

8.6 $\frac{5}{8}$

8.7 $\frac{101}{125}$

8.8 $2\frac{1}{4}$

8.9 $2\frac{11}{20}$

8.10 $\frac{27}{20}$

8.11 $2\frac{7}{8}$

8.12 $8\frac{3}{4}$

Question 9 Complete the following table:

Common fraction	$\frac{1}{5}$		$\frac{3}{8}$	$\frac{3}{20}$			$\frac{13}{125}$
Decimal fraction		0,65			0,05	0,26	

Question 10 Write as common fractions in their simplest terms:

10.1 0,15

10.2 0,42

10.3 1,25

10.4 1,005

10.5 0,012

10.6 0,28

10.7 0,75

10.8 0,375

10.9 1,02

10.10 1,36

10.11 0,111

10.12 0,015

Question 1 Complete the table below. Do not use a calculator.

\times	\div
$4,56 \times 10 =$	$4,56 \div 10 =$
$4,56 \times 100 =$	$4,56 \div 100 =$
$4,56 \times 1\,000 =$	$4,56 \div 1\,000 =$

Question 2 Write down the answers only. Do not use a calculator.

2.1 $3,4 \times 100 =$

2.2 $7,9 \times 100 =$

2.3 $0,3 \times 10 =$

2.4 $0,2 \div 10 =$

2.5 $1,23 \times 1\,000 =$

2.6 $1,7 \times 100 =$

2.7 $0,007 \times 100 =$

2.8 $0,04 \div 10 =$

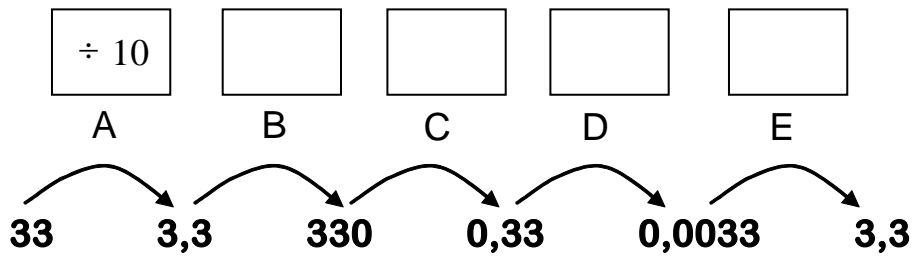
2.9 $239,5 \div 1\,000 =$

Question 3 Complete the table below. Do not use a calculator.

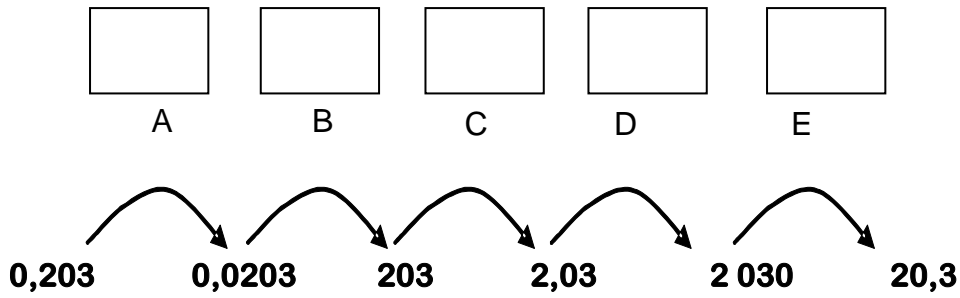
	27	2,81	1,231	16,2	1,163	171	0,01
$\times 100$							
$\div 100$							

Question 4 Fill in the operator.

4.1 For example: A will be $\div 10$.

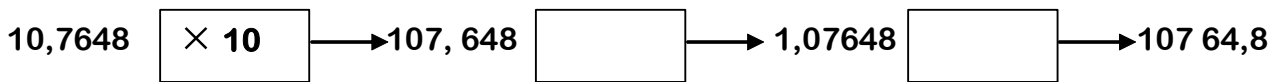


4.2



Question 5 Fill in the operator to complete the number chain below.

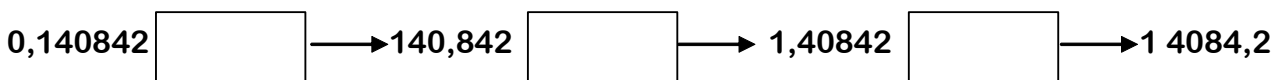
5.1



5.2



* 5.3



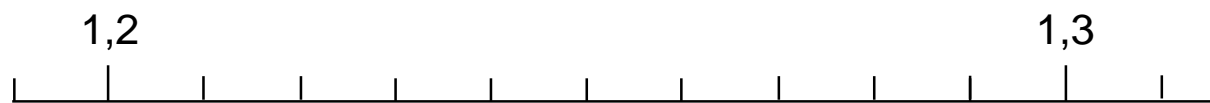
Reading Scaled Measurements

Question 1

1.1 Fill in the correct number at each mark on the number line below:



1.2 Do the same on this line:



Question 2 (i) Write down the measurement represented by each small division on the number lines below:

(ii) Read off the measures of the letters A to X from the number lines below:

2.1



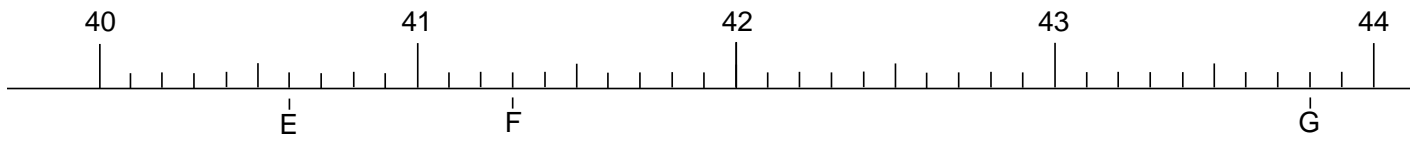
A:

B:

C:

D:

2.2

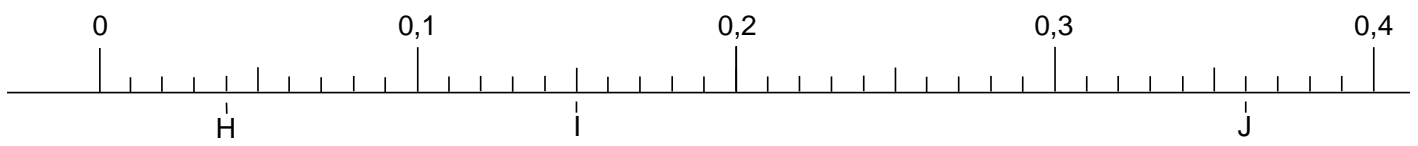


E:

F:

G:

2.3

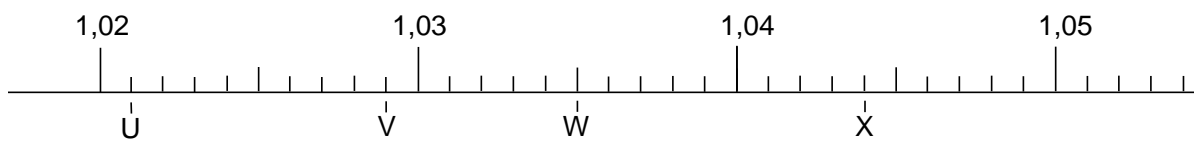


H:

I:

J:

2.4



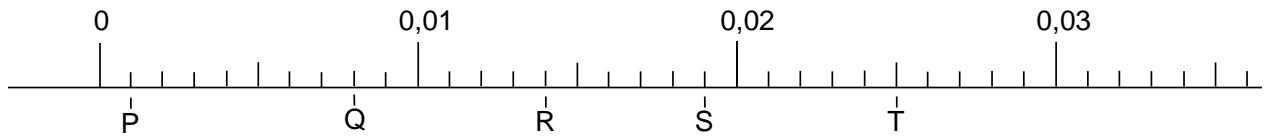
U:

V:

W:

X:

* 2.5



P:

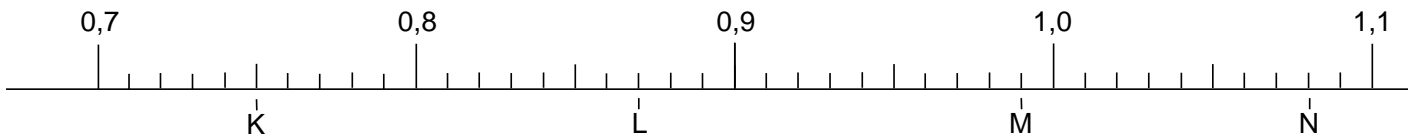
Q:

R:

S:

T:

* 2.6



K:

L:

M:

N:

Question 3 Read off the measures of the letters A to D from the number line below:



A:

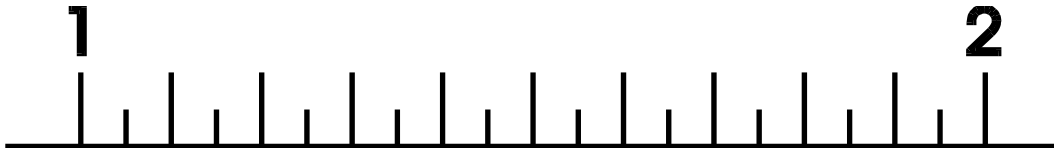
B:

C:

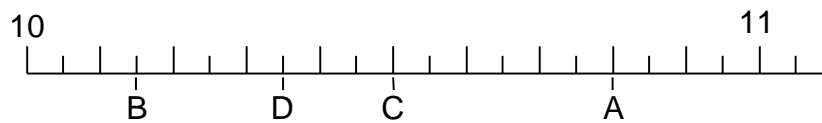
D:

Question 4 Put the following four numbers in the correct position on the number line below:

$$1\frac{1}{4}; 1,05; 1,7; 1,91$$



Question 5



5.1 Write each of the numbers represented by the following letters as a *fraction* in its simplest form:

A:

B:

5.2 Write each of the numbers represented by the following letters as a *decimal*:

C:

D:

5.3 Use an E to mark 10,55 on the number line.

- * **Question 6** The diagram below shows different readings on a kitchen scale. Write down the mass (in kilograms) for each of the readings shown:



A =

B =

C =

D =

- Question 7** Rank each group of decimal numbers from greatest to smallest:

7.1 0,24; 0,42; 2,4

7.2 0,3; 0,03; 3,0

7.3 0,5; 0,055; 0,55

7.4 0,8; 8,0; 0,88

7.5 0,676; 0,766; 6,76

7.6 9,0; 9,9; 9,09

Rounding Off

1. Round off 9 899,059 9 to

the nearest whole number	the nearest hundredth	the nearest thousand	3 decimal places

2. Write 679,553 correct to

the nearest unit	the nearest tenth	the nearest hundred	2 decimal places

3. Round off 7 899

to the nearest thousand	to the nearest ten	to the nearest hundred

4. Write 5 648,999

correct to the nearest hundred	correct to the nearest tenth

5.1 Round off 382 to the nearest 10.

5.2 Round off 3 651 to the nearest 100.

5.3 Round off 199 502 to the nearest 1000.

5.4 Round off 4,859 to one decimal place.

6.1 Write 45,568 m to the nearest centimetre.

6.2 Write 345,3889 km to the nearest metre.

7. Round off R45,994 to the nearest

cent	Rand

8. An overseas phone call from a pay telephone is going to cost you 1 645 cents, but you have only one type of coin.

8.1 If you have only 50 c coins, how many will you have to put into the payphone? Show your working.

8.2 If you have only R2 coins, how many will you have to insert? How much *extra* will you have paid? Show your working.

In this section you use the calculator to write fractions as terminating or recurring decimals.

Terminating decimals

$$\frac{5}{8} =$$

$$\frac{1}{125} =$$

$$\frac{11}{25} =$$

$$\frac{43}{125} =$$

$$\frac{27}{80} =$$

$$\frac{7}{16} =$$

Non-Terminating decimals

$$\frac{12}{43} =$$

$$\frac{29}{34} =$$

$$\frac{11}{23} =$$

$$\frac{43}{122} =$$

$$\frac{27}{29} =$$

$$\frac{31}{68} =$$

Recurring decimals

$$\frac{1}{3} =$$

$$\frac{5}{12} =$$

$$\frac{5}{11} =$$

$$\frac{1}{111} =$$

$$\frac{1}{99} =$$

$$\frac{11}{12} =$$

$$\frac{2}{3} =$$

$$\frac{1}{6} =$$

Question 1 Convert the following common fractions to decimal fractions with the help of a calculator, using recurring dots where required:

1.1 $\frac{7}{15} =$

1.2 $\frac{7}{16} =$

1.3 $\frac{3}{16} =$

1.4 $\frac{7}{9} =$

1.5 $\frac{5}{6} =$

1.6 $\frac{1}{32} =$

1.7 $\frac{3}{11} =$

1.8 $\frac{50}{111} =$

Question 2 Round off each answer in Question 1 to the second decimal place. You may prefer to work from the long calculator answer.

Use a calculator to work out the following sums. Write the calculator answer and then round off to two decimal places where necessary:

1. $(5,31)^2$
2. $103,345 - 27,21 \times 1,3$
3. $135,39 + (3,8)^2$
4. $235,761 + 131,719 \div 0,23$
5. $272,22 - 11,3^2$
6. $227,3 + 71,81 - 28,67$
7. $755 \times 3,2 \div 2,42$
8. $37,44 - 5,82 \times 3,33$
9. $25,4 \times 1,23 \div 0,156$
10. $12,678 + 34,56 - 45,305$

Mixed Examples**Lesson 7**

ALWAYS SHOW WORKING WHEN DOING "STORY SUMS".

Question 1

- 1.1 Which number is 0,93 less than 3,642?

- 1.2 Which number is 15 times larger than 0,375?
- 1.3 Which number exceeds 3,847 by 0,903?
- 1.4 What is the product of 2,3 and 0,12?
- 1.5 How many times can 0,3 be subtracted from 18?

Question 2 Calculate the following. Write the calculator answer and then round off to one decimal place:

2.1 $(3,35)^2$

2.2 $27,2 - 9,31 \times 2,84$

2.3 $\frac{0,22393}{0,07}$

2.4 $9,995 - 0,21^2$

2.5 $8,35 \times (7,92 - 3,61)$

2.6 $\frac{26,8 + 2,7}{8,34 - 1,31}$

2.7 $13,4 \times 3,1 - 4,31 \div 2,4$

Question 3 List the following numbers from smallest to largest:

$3\frac{1}{3}$; 3,003; 3,03; 3; $\frac{3}{100}$

Question 4 Give the next two terms of each of the following number sequences:

0; 0,5; 1; 1,5; _____; _____

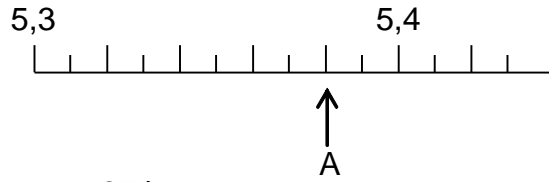
10; 2; 0,4; 0,08; _____; _____

10,3; 9,9; 9,5; 9,1; _____; _____

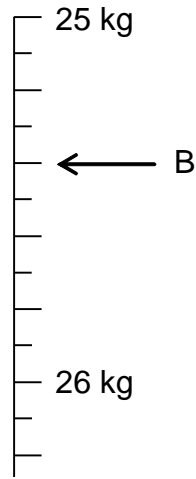
1,1; 3,3; 9,9; 29,7; _____; _____

Question 5 Give the value of the letters indicated on the following scales:

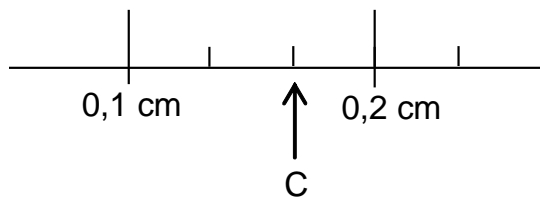
5.1



5.2



* 5.3

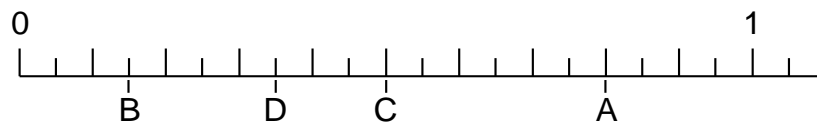


Question 6 Put the following four numbers in the correct position on the number line below:

$1\frac{1}{2}$; 1,05; 1,3; 1,96



* **Question 7**



7.1 Write each of the numbers represented by the following letters as a *fraction* in its simplest form:

A:

B:

7.2 Write each of the numbers represented by the following letters as a *decimal*:

C:

D:

Question 8

When Nicky visited the United States she had to exchange her rands for US dollars. One rand was equal to 0,13 dollars. How many dollars did she get for R800?



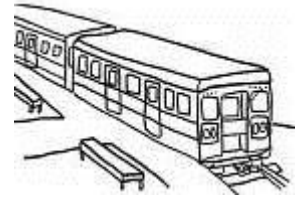
Question 9

The school tuckshop sells *Nestle Mini Bites* at 70c each. At Pick 'n Pay a bulk pack containing 20 Nestle Mini Bites costs R15,98. By how much does the Pick 'n Pay price exceed the tuckshop price for each mini bar of chocolate?

Question 10

A monthly season ticket on a train costs R70,35. The normal single fare is R2.

- 10.1 How many single journeys must be made each month to make it worthwhile buying a season ticket?



- 10.2 What is the saving if 42 journeys are made in one month?

Question 11

Saul had saved R454,50 over a period of time.

- 11.1 When Stephen asked him how long he had been saving he said, "I don't know, but I can tell you that I save R50,50 a week." Calculate how many weeks Saul had been saving.

- 11.2 If Saul wanted to buy a *Ipod Shuffle* for R800 in six weeks time, how many more whole rands would he have to save a week from now on to make sure he had enough money altogether?



Question 12 Steven rode 34,7 kilometres in 25 minutes.
12.1 How many kilometres did he cover in 1 minute?

12.2 How many kilometres will he cover in 1 hour?

Question 13 Mr Mallion's car travels 619,84 kilometres on 52 litres of petrol.

13.1 How far will Mr Mallion's car go on 1 litre of petrol?

13.2 Estimate how many litres of petrol the car will need to travel 100 kilometres.

*** Question 14** Mr Cohen's car's petrol tank holds 63,5 litres when full. He paid R380,88 to fill up with petrol. Petrol costs 1 035 cents per litre. How much petrol was in his tank before he filled up?

*** Question 15**

A farmer takes the onions she has grown to market on her truck. On entering the market she has to take her truck over a weighbridge. On Monday her truck and 35 bags of onions weighs 3,9 tonnes.

On Thursday, her truck and 50 bags of onions weighs 4,125 tonnes.

15.1

What is the mass of one bag of onions?



15.2

The weighbridge does not allow a load of more than 5 tonnes. How many bags of onions will the farmer be able to carry on her truck without exceeding the limit?

1. What did Mr Moloto pay for 8,7 m of curtaining , if he paid R28,40 per metre?

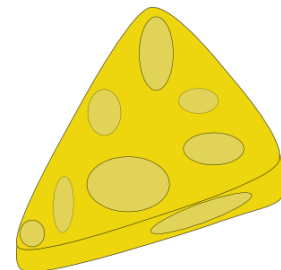


2. A pocket of 18 oranges costs R11,95. What would you be charged for one orange?



3. What would you pay for a piece of cheese, if it had a label like this?

Gouda	
R/kg R37,95	MASS kg 0,55



4. Calculate the total cost of each of these shopping lists:

4.1.

Items	Cost
3,08 kg grapes @ R8,60 per kg	
7,2 kg oranges @ R6,70 per kg	
3 dozen eggs @ R4,50 / half a dozen	
6 pawpaws @ R16,70 for two	
Total Cost	



4.2.

Items	Cost
4 melons @ R8,95 each	
36 bananas at R7,99 per dozen	
12,43 kg grapes at R8,99/kg	
700 g tomatoes @ R4,50/100 g	
Total Cost	



Bibliography

H Barry and V Dugmore *On Track with Maths Gr 7.*
 Laridon et al. *Classroom Mathematics Gr 7* 2005