

The Primary Stage of Grades (4-5)
School Year 2022- 2023

Name: _____

Subject: Math

Date: /

Grade: 4 CP (C , D , E , F & G)

Decimals

BOOKLET



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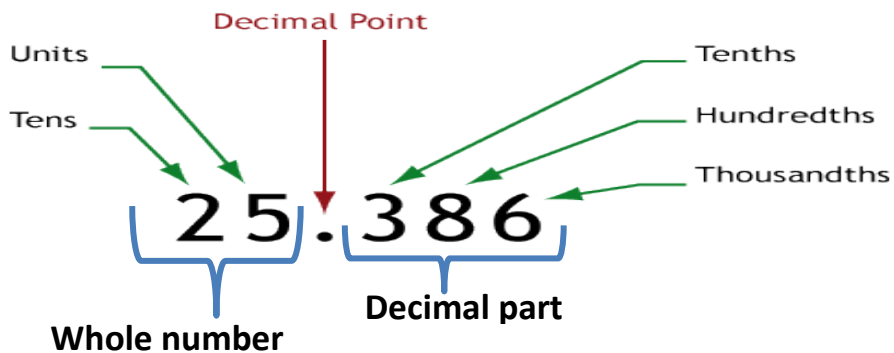


معتمدة من

Decimals

Place value chart:

Whole Number Part					Decimal Part		
Thousands Family	Ones			.			
Thousand	hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
				.			



Word Form:

How to write 25 . 386 in the word form?

25 . 386

Twenty-five and three hundred eighty-six thousandths

OR Twenty-five point three eight six

1) Write the following numbers in words:

a) 57.324

b) 16.22

c) 314.08

d) 200.004

2) Write the following numbers in figures:

Use the **place value chart**
to help you find the position of each digit
and make it easier to solve.

a) Two and fifty five hundredths.

b) Seven hundred thirty one and seventy five hundredths.

c) Six hundred four and two thousandths.

d) Forty one and seven tenths.

e) Ninety point nine one two

Value and place value:

Place value can be defined as the position or the name of the digit.

The value is how much the digit is worth & it depends on the digits **place** in a number

Use the **place value chart**
to help you find the position of each digit and
make it easier to solve.

Write the value and place value of the underline digit:

18 . 3 4 7

Whole Numbers							
Thousands Family	Ones			.	Decimal family		
Thousand	hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
		1	8	.	3	4	7
Value:		0	0	.	0	4	0

Value: 0 . 0 4

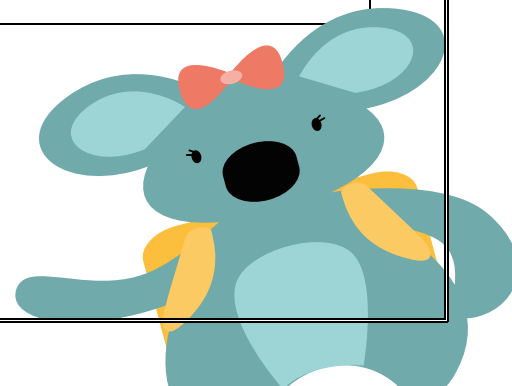
Place value: Hundredths

3) Write the **value** of the underline digit:

a) 2 . 4 <u>7</u> 8	b) <u>6</u> 6.001
c) 17 . <u>2</u>	d) <u>1</u> 473 . 907
e) 51 . 99 <u>4</u>	f) 84 . <u>0</u> 8

4) Write the **place value** of the underline digit:

a) 34 . <u>8</u> 75	b) 55.65 <u>4</u>
c) 10.9 <u>9</u> 2	d) 1 <u>7</u> 42. 907
e) 88 . 2 <u>0</u> 7	f) 74 . 64 <u>1</u>
g) <u>2</u> 1 436 . 25	h) 22 . <u>1</u> 4



Expanded Form:

Writing the number as the sum of the **value** of each digit.

Example: Partition the number 25 . 396 ?

$$25 . 396 = 20 + 5 + 0.3 + 0.09 + 0.006$$

5) Partition the following numbers:

a) 276 . 9

b) 63 . 214

c) 71 . 601

d) 311 . 04



6) Answer the following:

- The digit in the hundredths place in 21.293 is _____

- The digit in the ones place in 74.013 is _____

- The digit in the tenths place in 58.17 is _____

- The digit in the thousandths place in 74.013 is _____

- = 70 000 + 400 + 20 + 1 + 0.08

- 9 837.124 = 9 000 + + 30 + 7 + + 0.02 +

7) Complete the table:

Words	Standard (figures)	Partition
Six hundred five point one nine seven		
	64.817	
		100 + 40 + 3 + 0.8 + 0.05
Twenty-three and eight thousandths		

Fraction can be expressed as decimal:

1)

$$\frac{1}{5} = \frac{2}{10} = 0.\underline{2}$$

Make equivalent fraction out of 10, 100 or 1000

Place the whole number if present to the left of the decimal point

Place the numerator to the right of the decimal point

One digit after decimal point because **denominator is 10**

Or we can express the decimal number as Percentage

2)

$$0.2 = \frac{2}{10} = \frac{20}{100} = 20\% = 0.20$$

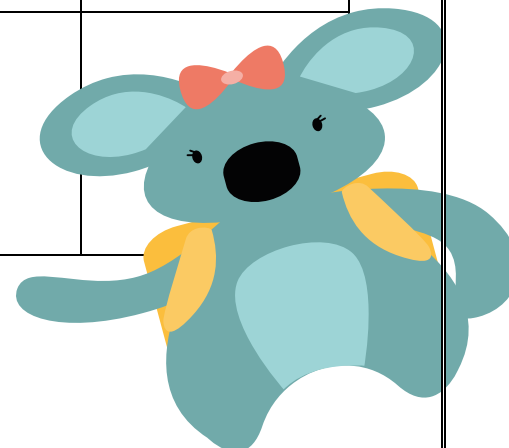
Two decimal places after decimal point because **denominator is 100**

$$\frac{11}{20} = \frac{55}{100} = 0.55 = 55\%$$

Place the whole number if present to the left of the decimal point

8) Complete the table:

Fraction in simplest form	Fraction	Decimal	Percentage
	$\frac{26}{100}$		
			44 %
$\frac{2}{25}$			
		0.38	
			6 %
$\frac{7}{50}$			
	$\frac{40}{100}$		



Compare & Order:

- Compare and order between the following numbers:

4.8 / 4.826 / 4.08 / 4.006

Step 1: Insert the numbers being compared, line up the decimal points.

4.8
4.826
4.08
4.006

Step 2: Add zeros so that each number has the same number of digits after the decimal.

4.800
4.826
4.080
4.006

Step 3: Compare each place value one by one. If the number is the same move to the next place value.

↓ ↓ ↓ ↓
4.800
4.826
4.080
4.006

Step 4: Order the numbers according to the question.

4.006, 4.080, 4.800, 4.826

Remove the zeros you previously added.

4.006, 4.08, 4.8, 4.826

9) Write ($>$, $<$ or $=$) to make the following statements true.

a) 72.31 33.98

b) 9.57 9.61

c) 23.8 23.80

d) 44.701 44.711

e) 31.01 31.1

f) 34 32.14

g) 82.35 823.5

h) 24.006 24.06

Remember:
make the
same
number of
digits after
the decimal
before you
compare.

10) Order the following numbers starting with the smallest.

8.6 / 9.1 / 8.314 / 8.63 / 8.316



12.1 / 9.3 / 9.05 / 12.16 / 9.37



$\frac{7}{25}$ / 0.7 / 2.43 / 32%



Labeling on number line:

To represent a decimal on a number line, divide each segment of the number line into ten equal parts.

example: label 8.4 on a number line.

To represent 8.4 on number line,

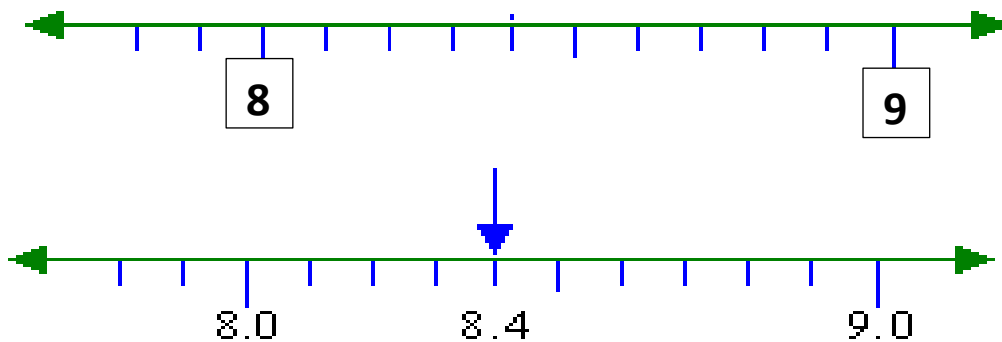
Add decimal point and a zero to both numbers because 8.4 is between 8 and 9

Jump 4 jumps, so you will reach 8.4

The arrow is four parts to the right of 8.

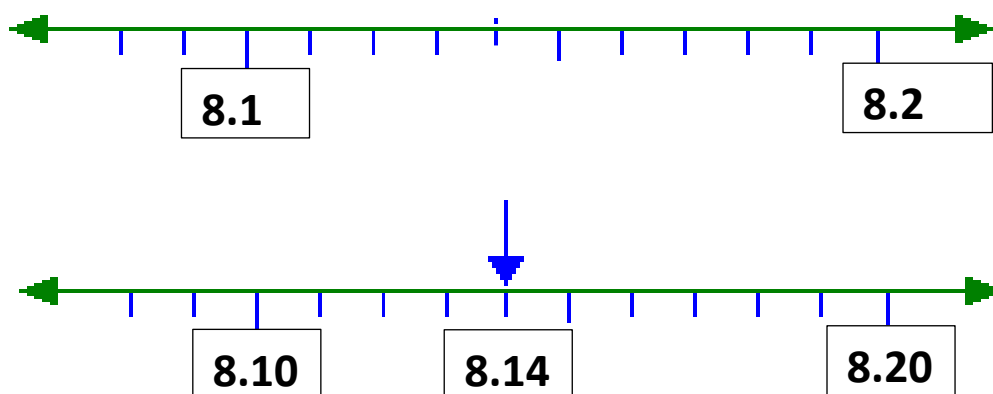
Or you can add a decimal drop a zero
your number will be between 8.0 & 9.0
Or (80 & 90. Then put back the decimal.

Example One:



Or you can remove the decimal drop a zero
your number will be between 810 & 820.
Then put back the decimal.

Example Two: Label 8.14

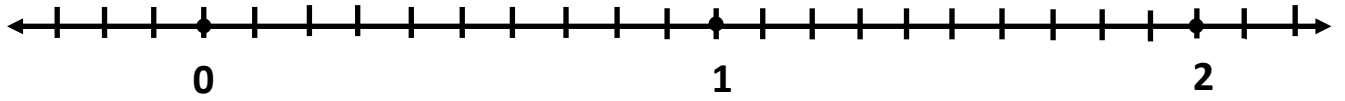


11) Label the following numbers on the number line below:

a) 0.4

b) 1.7

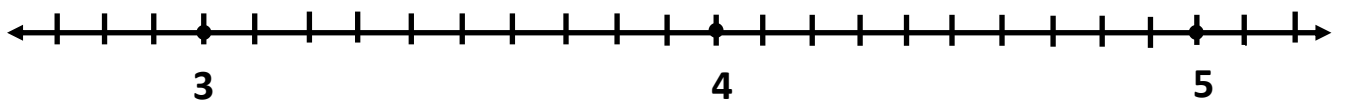
c) 0.9



c) 3.7

d) 2.8

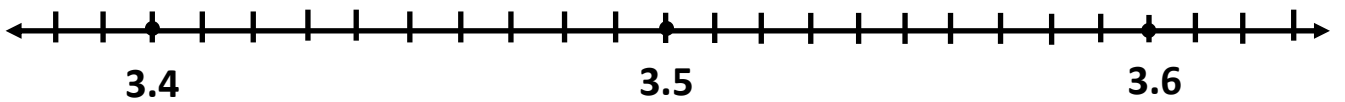
e) 4.4



f) 3.57

g) 3.61

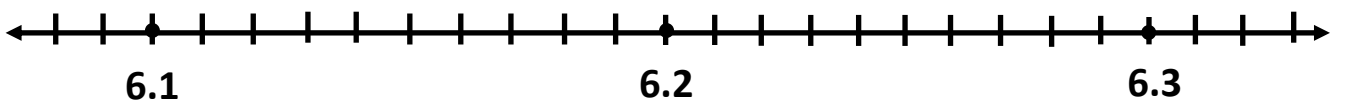
h) 3.41



i) 6.26


j) 6.09

k) 6.33




Rounding:

- How to round decimal numbers?


Step 1  Underline the digit in the place value that you are rounding to.

Step 2  Look next door:


5 and more add one more
4 and less let it rest

Step 3  Change every number to the right of the underline number to zero

Example: Round 34.818 to one decimal place?


 $34.\underline{8}18 = 34.800 = 34.8$

Example: Round 34.818 to nearest whole number?

 +1
 $34.\underline{8}18 = 35.000 = 35$

12) Round:

I) Round the following to the nearest Hundred:

a) $547.345 \approx$ _____

b) $289.58 \approx$ _____

c) $99.95 \approx$ _____

d) $661.021 \approx$ _____

II) Round the following to the nearest **one decimal place**:

a) $847.962 \approx$ _____

b) $963.584 \approx$ _____

c) $99.95 \approx$ _____

d) $251.429 \approx$ _____

III) Round the following to the nearest **Whole number**:

a) $904.974 \approx$ _____

b) $369.459 \approx$ _____

c) $99.93 \approx$ _____


d) $543.617 \approx$ _____



Adding and Subtracting:

Example: $13.7 + 5.34 =$

Two rules must be applied:

Rule 1  The decimal points must be lined up before adding or subtracting any decimal numbers.

Rule 2  Add place holder zeros to help.

$$\begin{array}{r} 13.70 \\ + 05.34 \\ \hline 18.04 \end{array}$$

Holder zeros

13) Solve the following:

a)

$$\begin{array}{r} 2.1 \\ + 3.9 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 5.3 \\ - 3.7 \\ \hline \end{array}$$

c)

$$\begin{array}{r} 4.8 \\ + 3.6 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 2.9 \\ + 5.4 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 6.5 \\ - 4.9 \\ \hline \end{array}$$

f)

$$\begin{array}{r} 7.4 \\ - 5.9 \\ \hline \end{array}$$

g) Difference of 21 and 8.7

h) Sum of 3.5 and 7

14) Fill in the boxes with the correct numbers to make the following statements true:

a) $1.42 + \boxed{} = 6.44$

b) $6.74 - \boxed{} = 3.24$

c) $1 - \boxed{} = 0.43$

d) $\boxed{} + 0.68 = 1.25$

e) $8.3 + \boxed{} = 13.06$

f) $\boxed{} - 4.5 = 3.32$

e) $0.34 + \boxed{} = 1$

f) $3.2 + \boxed{} = 10$

g) $\boxed{} - 1.62 = 10$

h) $\boxed{} + 0.91 = 1$

i) $\boxed{} + 2.7 = 3.82$

j) $\boxed{} - 1.03 = 5$



Double and Half:

- To double a number:

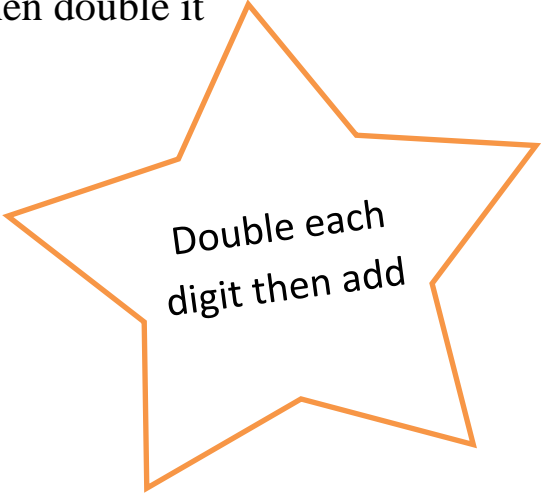
First you have to partition the number then double it

Example: Double 4.61?

$$\text{Partition} = 4 + 0.6 + 0.01$$

$$\text{Double} = 8 + 1.2 + 0.02$$

$$\text{Answer} = 9.22$$



Double each
digit then add

- To half a number:

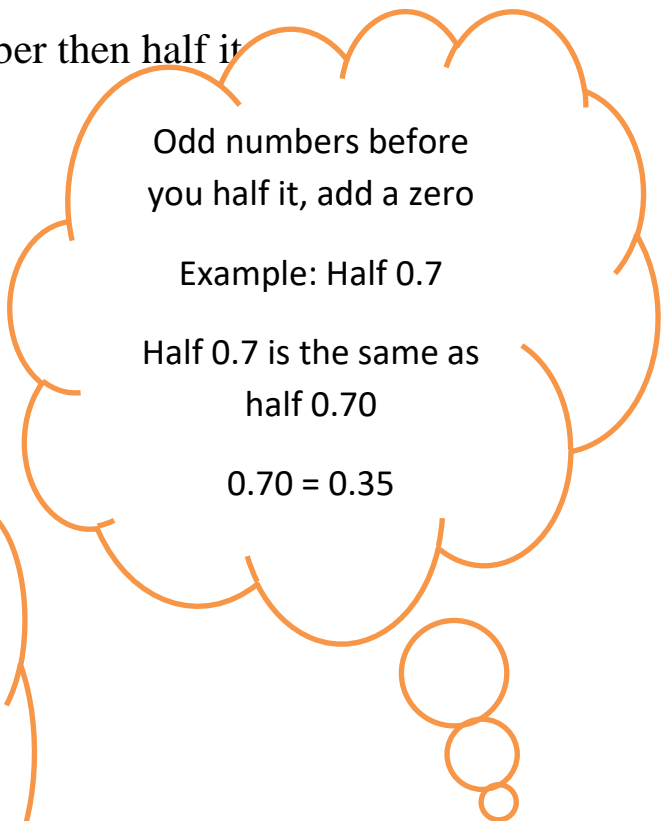
First you have to partition the number then half it

Example: half 8.42?

$$\text{Partition} = 8 + 0.4 + 0.02$$

$$\text{half} = 4 + 0.2 + 0.01$$

$$\text{Answer} = 4.21$$



Odd numbers before
you half it, add a zero

Example: Half 0.7

Half 0.7 is the same as
half 0.70

$$0.70 = 0.35$$



Half:

$$10 = 5$$

$$30 = 15$$

$$50 = 25$$

$$70 = 35$$

$$90 = 45$$



15) Complete the following table:

	Half	Number	Double
1)		4.2	
2)			64.84
3)		8.7	
4)	3.25		
5)			2.8

Multiplying and Dividing:

Multiplying by 10, 100 and 1000:

When the multiplier is 10, 100 or 1000, we move the **decimal point to the right** by as many zeros after the digit 1 in the multiplier.

(multiplier could be 10 or 100 or 1000 So By one digit, or two digits or three digits)

Example: $8.597 \times 10 = 85.97$
 $8.597 \times 100 = 859.7$
 $8.597 \times 1000 = 8597.0$

The number is getting larger



Dividing by 10, 100 and 1000:

When the multiplier is 10, 100 or 1000, we move the **decimal point to the left** by as many as zeros after the 1 in the multiplier.

(multiplier could be 10 or 100 or 1000 So By one digit, or two digits or three digits)

Example: $573.1 \div 10 = 57.31$
 $573.1 \div 100 = 5.731$
 $573.1 \div 1000 = 0.5731$

The number is getting smaller



16) Find the following: (Showing your work)

a) $5.67 \times 100 =$

b) $7.67 \div 10 =$

c) $27.3 \div 100 =$

d) $5.3 \times 100 =$

e) $12.36 \times 1000 =$

f) $26.8 \div 100$

g) $8.9 \times 100 =$

h) $19 \div 1000$

17) Fill in the missing numbers using 10 or 100 or 1000.

a) $1.23 \times \boxed{} = 123$

b) $413 \div \boxed{} = 0.413$


c) $155.3 \div \boxed{} = 1.553$


d) $\boxed{} \times 1000 = 7800$


e) $10 \times \boxed{} = 87.4$

f) $\boxed{} \div 10 = 3.99$

Multiplying & Dividing Decimals:

Step 1  Ignore the decimal, multiply or divide as usual.

Step 2  Determine the total number of digits behind the original decimal point.

Step 3  Place the same number of digits behind the decimal point in the product.

Example 1: $23 \times 0.4 =$

$$23 \times 4 = 92$$

$$\text{Answer} = 9.2$$

The question has only **one decimal place** So Answer will have one decimal place

Example 2: $1.2 \times 0.2 =$

$$12 \times 2 = 24$$

$$\text{Answer} = 0.24$$

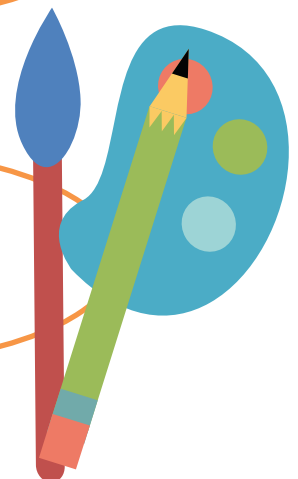
The question has only **two decimal places** So Answer will have one decimal place

Example: $5.6 \div 8 =$

$$56 \div 8 = 7$$

$$\text{Answer} = 0.7$$

The question has only **one decimal place** So Answer will have one decimal place

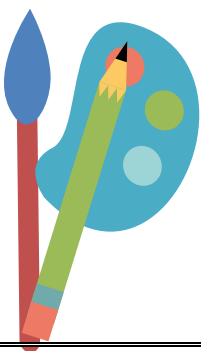


18) Solve the following:

a) $4.8 \div 6 =$	b) $2.8 \div 4 =$
c) $0.63 \div 7 =$	d) $1.6 \div 4 =$
e) $0.81 \div 9 =$	f) $3.5 \div 7 =$
g) $0.032 \div 8 =$	h) $0.042 \div 6 =$
i) Find the quotient of 0.18 and 3	j) Find the quotient of 0.24 and 6

19) Solve the following:

a) $28 \times 0.3 =$	b) $5.4 \times 0.7 =$
c) $0.4 \times 8.5 =$	d) $45 \times 0.5 =$
e) $3.7 \times 1.2 =$	f) $0.31 \times 0.93 =$
g) $6.6 \times 2.4 =$	h) $9.1 \times 3.7 =$
i) Find product of 7.5 and 6.2	j) Find product of 2.2 and 8.4

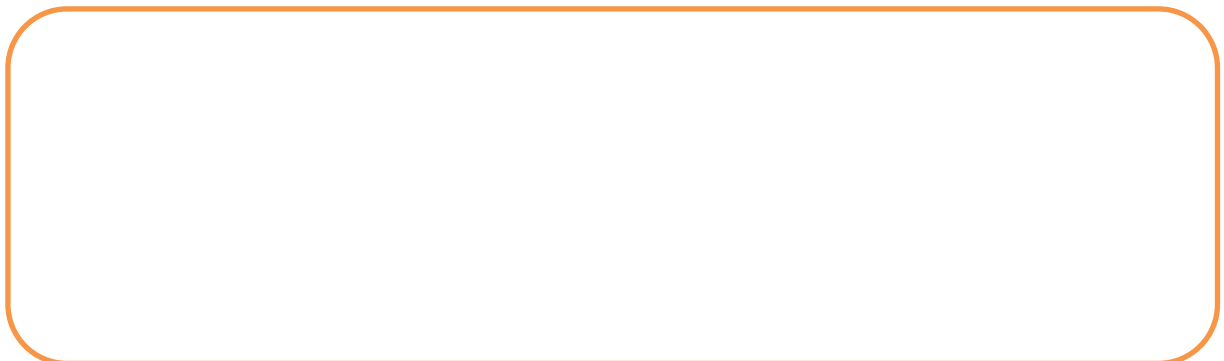


20) Solve the following:

- a) The weight of a box is 3.7 kg.
what will be the weight of 18 boxes?



- b) Jan had \$ 20. He bought a board game for \$8.49 and
a book for \$3.25. How much money does he have left?



- c) Lily bought 6 boxes of pens each cost \$12.4 if she gave \$100 to
the shopkeeper. How much does she get in change?



d) Sara run 5.85 miles each day for 9 days.

How many miles did she run altogether?



e) Mary and John are the fastest runners in the school. Mary's best record for running a mile is 9.5 minutes and John's is 6.72 minutes. What is the difference in their records?



f) Nicole and David want to buy a Mother's Day present for their mom. They found a purse for \$55.99. Nicole has \$32.8 and David has \$15.9 saved.

How much more money do they need in order to buy the purse for their mom?

