**The Casio FX 115ES Calculator and Fractions, Mixed Numbers and Decimals**

These are the buttons we will be using to calculate fractions.



OFF

ON

SHIFT

FRACTION

ARROW KEYS

Let’s start with the basic arithmetic operations:

* **ADDITION**: Start with 3 4 right arrow

**Your screen should look like**:

 Continue with + 1 5 right arrow =

**Your screen should look like:**

* **SUBTRACTION**: 1 3 right arrow - 2 5 right arrow =

**Your screen should look like:**

* **MULTIPLICATION**: 5 4 right arrow X 2 3 right arrow =

**Your screen should look like:**

* **DIVISION**: 4 7 right arrow 6 13 right arrow =

**Your screen should look like:**

Mixed numbers

These are the buttons we will be using to calculate mixed numbers and improper factions.



SHIFT

FRACTION

ARROW KEYS

S⬄D to access

The answer from the division problem above was **,** which is an improper fraction. To convert from an improper fraction to a mixed number use the SHIFT S⬄D button to access the function.

* Input 26 21 right arrow SHIFT S⬄D

**Your screen should look like:**

* To convert back to an improper fraction just press SHIFT S⬄D again.

To input a mixed number, you just need to press SHIFT and the fraction key to access the mixed number option.

* is input by pressing 3 SHIFT  3 down arrow 4

To work with mixed numbers and proper fractions, you just need to input each using the appropriate buttons.

Let’s work

* Input 2 SHIFT 1 down arrow 4 right arrow 2 5 right arrow =

**Your screen should look like:**  SHIFT S⬄D yields 5

**Decimal/Fraction Conversions**

These are the buttons we will be using to work with decimal conversions.



FRACTION

S⬄D

ARROW KEYS

SHIFT

There are times the decimal rather than the fractional value is needed. To convert a fraction to a decimal or back **the = button must be pressed before pressing** S⬄D

* To change 5 to a decimal, input the mixed number as above:

 5 SHIFT 5 down arrow 8 right arrow and then press = which changes the fraction to improper form. Now press S⬄D and the answer will change to a decimal.

**Your screen should look like:**

If you press S⬄D again the answer reverts to the improper fraction .

Suppose the fraction does not represent a terminating decimal?

If the problem is looking for an exact answer, you are better leaving your work in fractional form.

If the problem is asking for an approximate answer,

you may convert to a non-termination decimal as a LAST step.

Fractions which have non-terminating decimal representation are given with the line above the repeating numbers.

 becomes becomes becomes

* Pressing the S⬄D again changes decimal to one with 10 decimal places rounding the answer in the last place.

 becomes 0.6666666667 becomes 0.7142857143 becomes 1.416666667

* Pressing the S⬄D again changes decimal back to its fractional form.

These are the buttons we will be using to work percent problems.



SHIFT

FRACTION

ARROW KEYS

S⬄D

( to access %

To work a problem involving percent you will need to access the % function by first using SHIFT and then ( .

* To take 25% of 468: Press 25 SHIFT ( X 468 =

**Your screen should look like:**

* To take 12of 325: Press 12 SHIFT 1 down arrow 3 right arrow SHIFT ( 325 =

**Your screen should look like:**

This answer can be changed to the mix numberby using SHIFT S⬄D or the decimal equivalent by using just S⬄D.

Changing from percent to fraction or decimal is possible by just inputting the percent and pressing =.

* Find 48% as a fraction and a decimal: 48 SHIFT ( =

**Your screen should look like:** 48%Pressing S⬄D gives 0.48

* Find 53% as a fraction and a decimal: 53 SHIFT 1 down arrow 3 right arrow SHIFT ( =

**Your screen should look like:** 53%Pressing S⬄D gives 0.