Rounding numbers

Overview
You can put the relevant expression into a hidden value that represents the integer form of the value.

Round a number down to the nearest integer
If you want to round a number down you can use the `int()` function to cut off the decimal point (i.e. 2.2 -> 2; 2.7 -> 2)
int(#form/value)

Round a number up to the nearest integer
Use the following calculation to always round a number up (i.e. 2.2 -> 3; 2.7 -> 3)

\[
\text{If( } \text{int(#form/value)} < \text{#form/value}, \text{int(#form/value)} + 1, \text{int(#form/value)} \text{)}
\]
This compares whether the decimal form of the lowest integer is smaller than the current value, and if so, rounds up, and otherwise truncates the value.

Round a number up from .5, otherwise down
As of CommCare 2.19, the "round" function is available. Simply write `round(#form/value)`. Read more [here](#).
You can also use the `int()` function in combination with multiplying the input by 2, adding 1, and then dividing by 2 (i.e. 2.2 -> 2; 2.7 -> 3)

\[
\text{int( } ( \text{#form/value} \times 2 + 1 ) \text{ div 2 })
\]
To round to a different number of decimal places, appropriately adjust the constant '2' in the preceding calculation. The constant should be twice the inverse of the desired precision. For example, for a precision of 0.1, constant = 1 / precision * 2 = 1 / 0.1 * 2 = 20. Consequently use `int( ( #form/value * 20 + 1 ) div 20 )`.

Round a number to a certain decimal place
You can use the same principles to round to the nearest .1, .01, .001, etc. with the following formula:
Round to nearest decimal: `round(#form/value*10) div 10`
To round to two decimals change the 10's in the formula above to 100. To three decimals change them to 1000, etc.