

Math Operations

Functions in Javascript

These are math functions in AppLab:

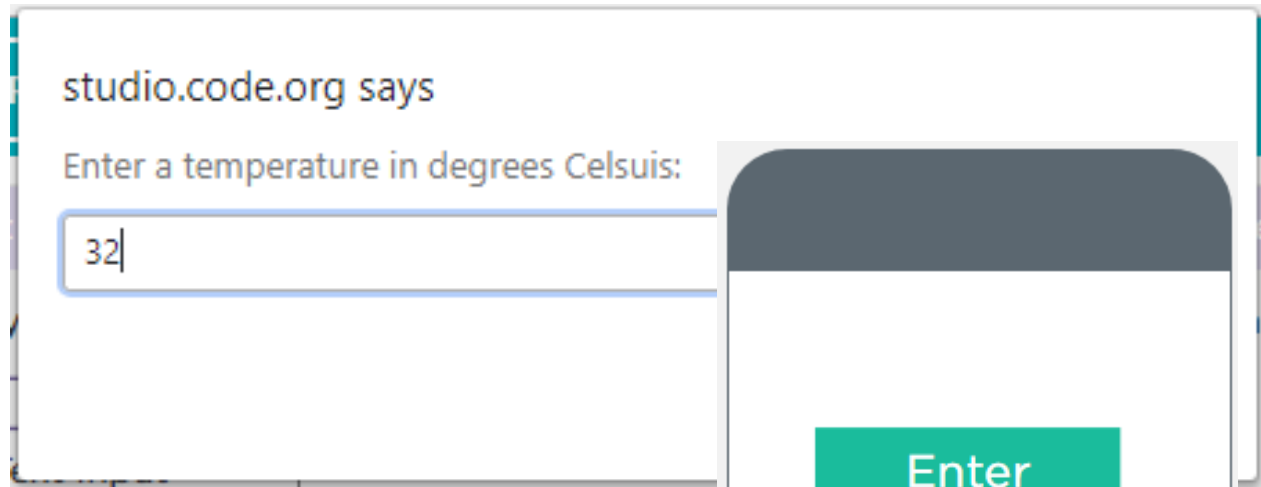
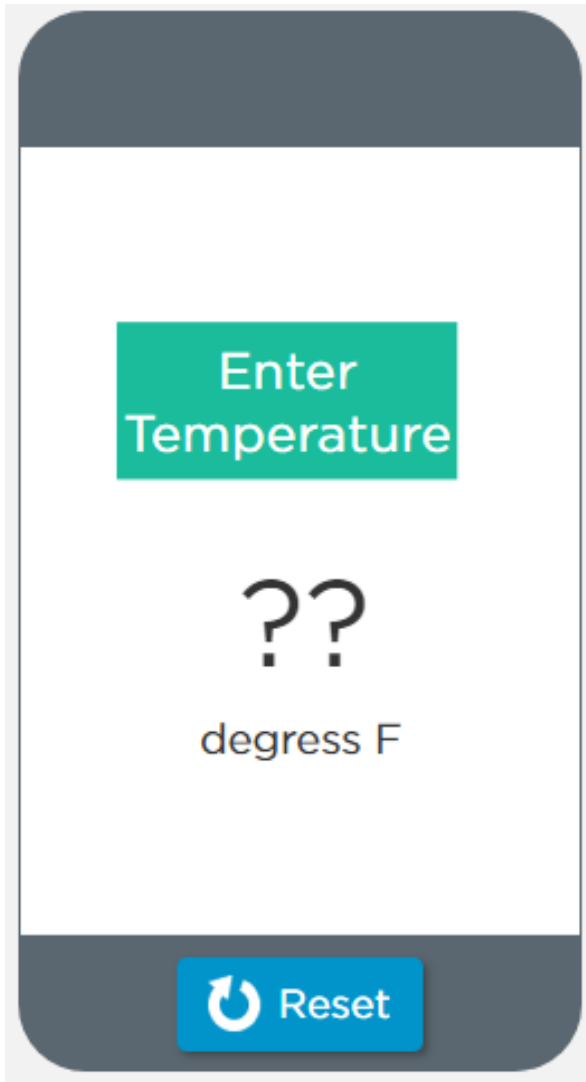


```
randomNumber ( , )
```

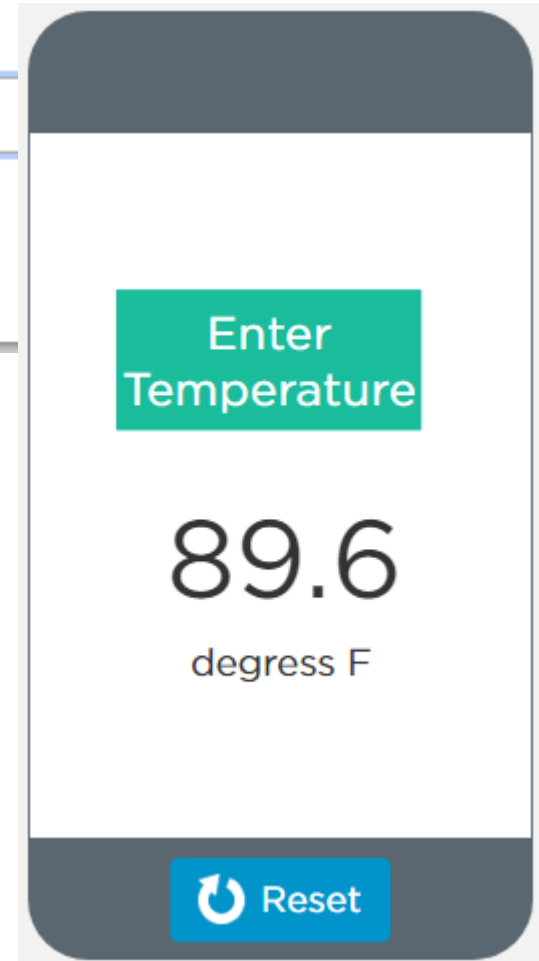
```
Math.round ( )
```

```
Math.abs ( )
```

```
Math.random ( )
```

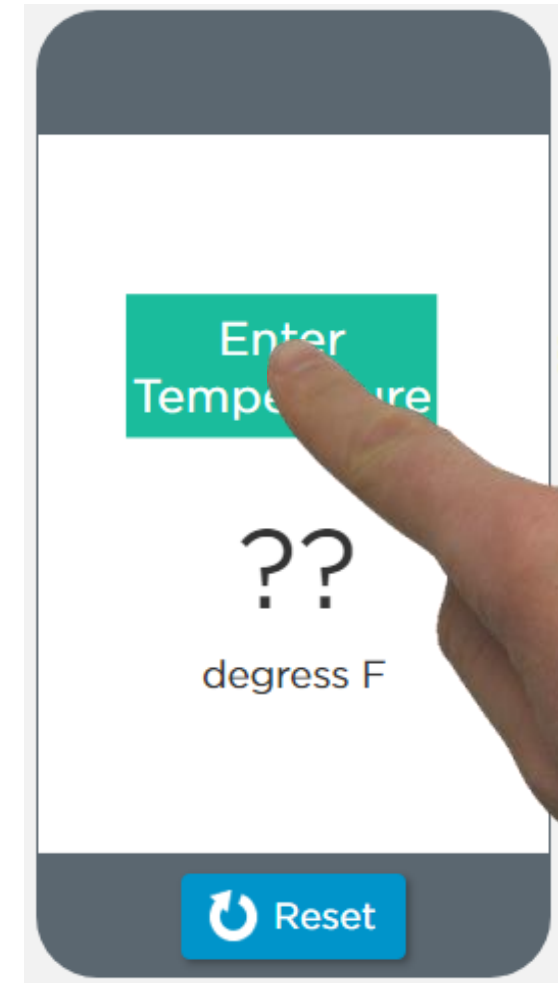


This app gets a temperature (Canadian) and coverts it to the American scale.



```
onEvent (▼ "temp", ▼ "click", function(event) {  
  var cel = promptNum("Enter a temperature in degrees Celsuis:");  
  var fahr =  $9 * cel / 5 + 32$ ; ;  
  setText (▼ "ans", fahr);  
});
```

What is the id
of the button
that is clicked?



```
onEvent (▼ "temp", ▼ "click", function(event) {
```

```
  var cel = promptNum("Enter a temperature in degrees Celsuis:");
```

```
  var fahr =  $9 * cel / 5 + 32$ ; ;
```

```
  setText (▼ "ans", fahr);
```

```
};
```

cel

32

fahr

?

studio.code.org says

Enter a temperature in degrees Celsuis:

32

OK

Cancel

Enter
Temperature

??

degress F

Reset

```
onEvent (▼ "temp", ▼ "click", function(event) {
```

```
var cel = promptNum("Enter a temperature in degrees Celsius:");
```

```
var fahr = 9 * cel / 5 + 32 ; ;
```

```
setText (▼ "ans", fahr);
```

```
}
```

cel

32

fahr

89.6

Which operation occurred first:
*, / or +?



```
onEvent (▼ "temp", ▼ "click", function(event) {
```

```
var cel = promptNum("Enter a temperature in degrees Celsuis:");
```

```
var fahr =  $9 * cel / 5 + 32$ ; ;
```

```
setText (▼ "ans", fahr);
```

```
};
```

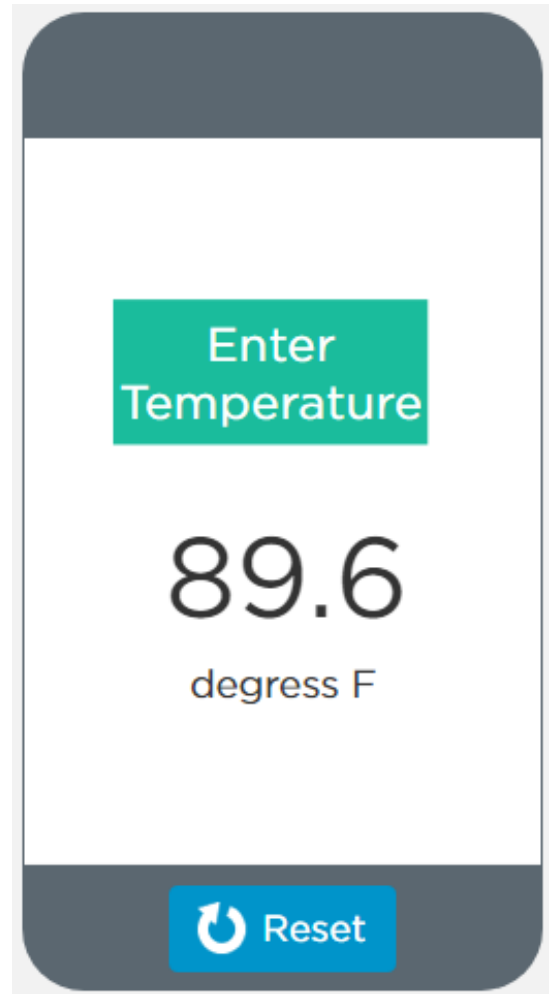
cel

32

fahr

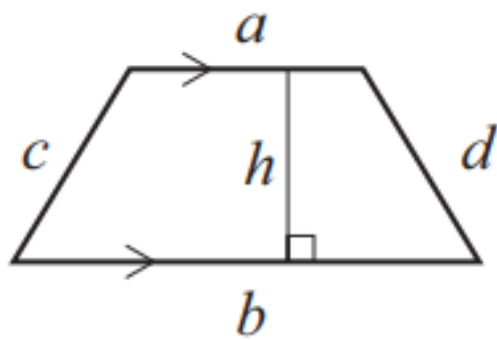
89.6

What is the name of the widget that got updated?



Some EQAO formulas translated into AppLab

Trapezoid



$$P = a + b + c + d$$

```
var P = a+b+c+d;
```

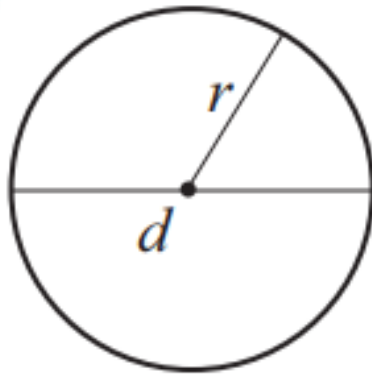
```
var P = a+b+c+d;
```

```
var A = 1/2 * (a+b) * h;
```

```
var A = 1/2 * (a+b) * h;
```

$$A = \frac{1}{2}(a + b)h$$

Circle



$$C = \pi d$$

or

$$C = 2\pi r$$

```
var C = 2 * 3.14159 * r;
```

```
var C = 2 * 3.14159 * r;
```

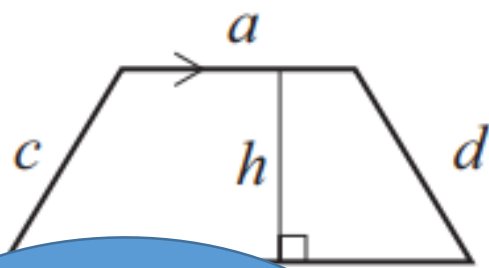
$$A = \pi r^2$$

```
var A = 3.14159 * r * r;
```

```
var A = 3.14159 * r * r;
```


Some EQAO formulas translated into AppLab

Trapezoid



How do you write π ?

$$P = a + b + c + d$$

```
var P = a+b+c+d;  
var P = a+b+c+d;
```

```
var A = 1/2 * (a+b) * h;
```

```
var A = 1/2 * (a+b) * h;  
A = 1/2 * (a + b) * h
```

$$C = \pi d$$

or

$$C = 2\pi r$$

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var C = 2 * 3.14159 * r;
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var C = 2 * 3.14159 * r;
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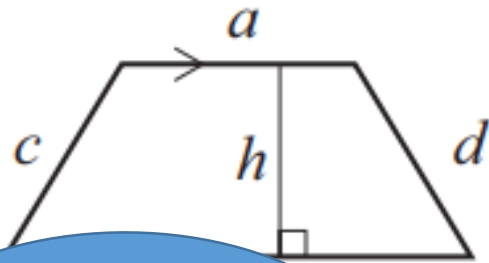
$$A = \pi r^2$$

```
var A = 3.14159 * r * r;
```

```
var A = 3.14159 * r * r;
```

Some EQAO formulas translated into AppLab

Trapezoid



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var A = 1/2 * (a+b) * h;
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$$A = \frac{1}{2}(a + b)h$$

$$C = \pi d$$

or

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```
var C = 2 * 3.14159 * r;
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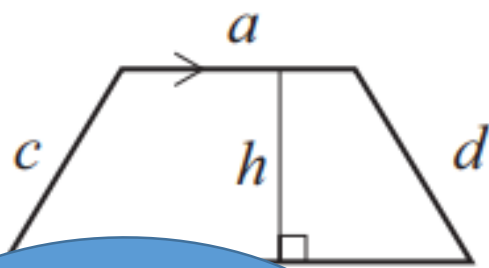
$$A = \pi r^2$$

```
var A = 3.14159 * r * r;
```

```
var A = 3.14159 * r * r;
```

Some EQAO formulas translated into AppLab

Trapezoid



How do you write $\frac{1}{2}$?

$$P = a + b + c + d$$

```
var P = a+b+c+d;
```

```
var P = a+b+c+d;
```

```
var A = 1/2 * (a+b) * h;
```

```
var A = 1/2 * (a+b) * h;
```

$$A = \frac{1}{2}(a + b)h$$

$$C = \pi d$$

or

$$C = 2\pi r$$

```
var C = 2 * 3.14159 * r;
```

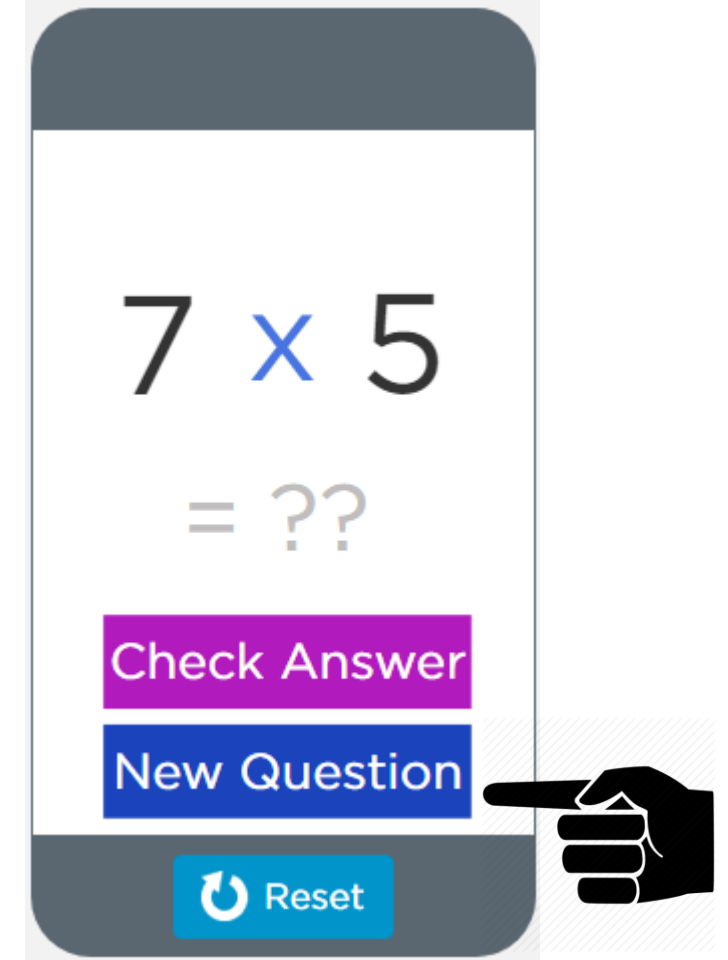
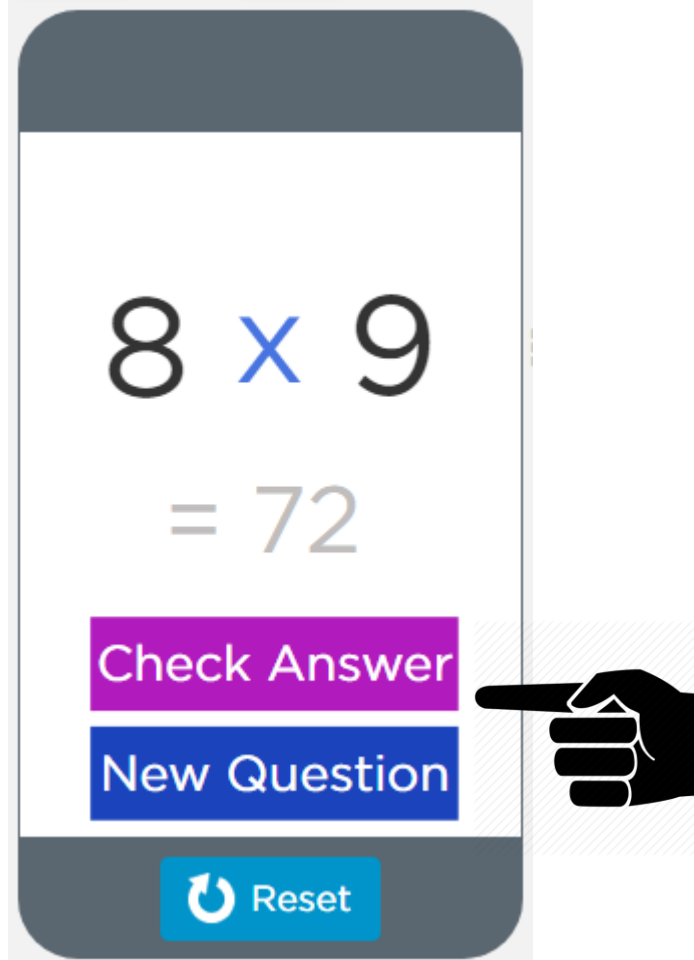
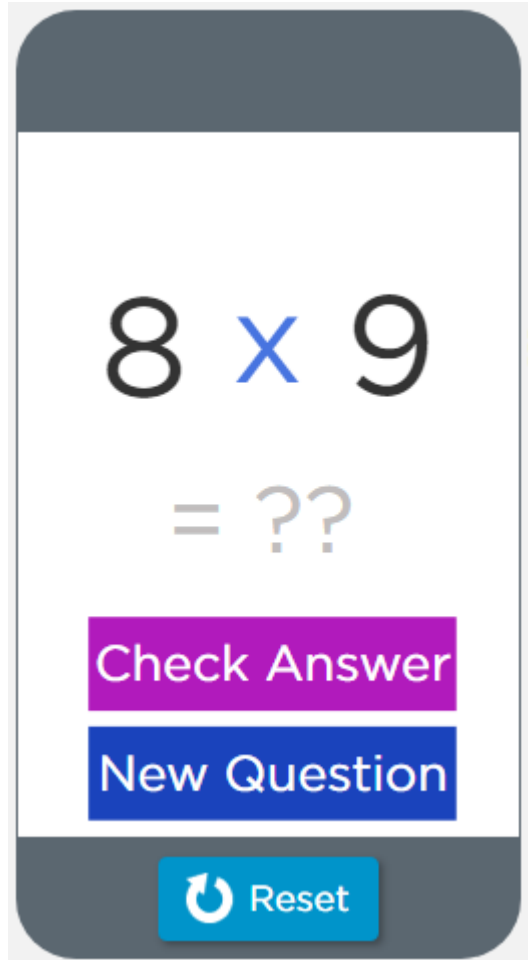
```
var C = 2 * 3.14159 * r;
```

$$A = \pi r^2$$

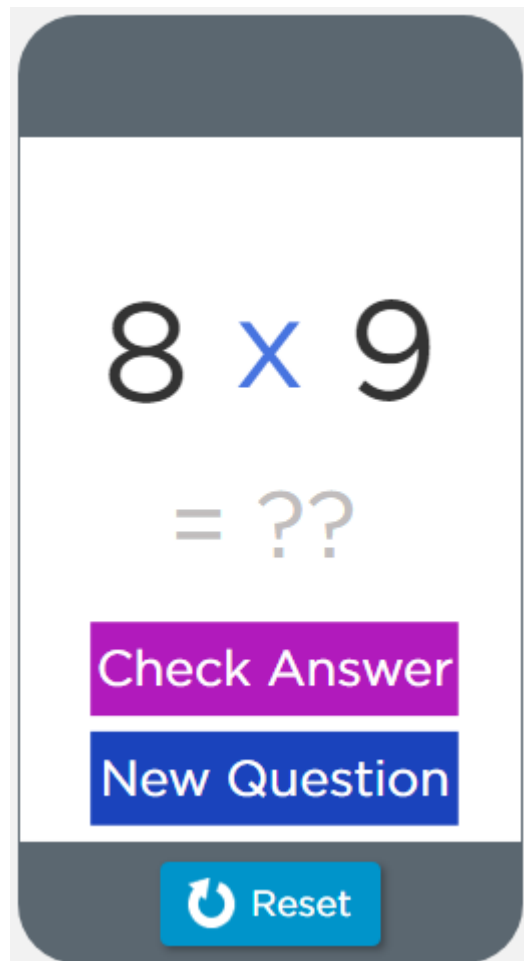
```
var A = 3.14159 * r * r;
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var A = 3.14159 * r * r;
```

The Flashcard App allows you to practice your number facts. You think of the answer and check if you are right.



Another button allows you to get a new question.

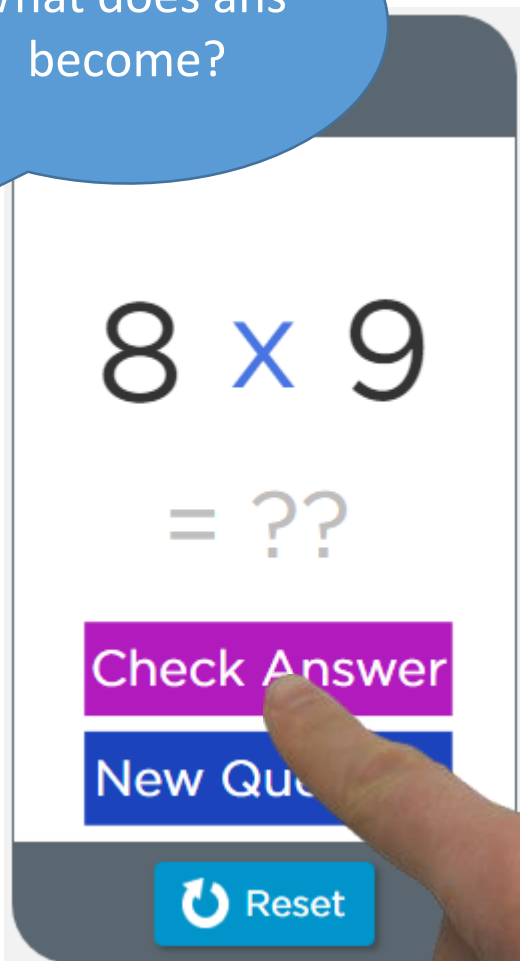


```
1 var n1 = 8;
2 var n2 = 9;
3 onEvent (▼ "check", ▼ "click", function (event) {
4   var ans = n1 * n2;
5   setText (▼ "answer", "=" + ans);
6 }
7
8 onEvent (▼ "newQ", ▼ "click", function (event) {
9   n1 = randomNumber (1, 9);
10  n2 = randomNumber (1, 9);
11  setText (▼ "number1", n1);
12  setText (▼ "number2", n2);
13  setText (▼ "answer", "= ??");
14 }
15
```

What two variables exist at the start?

n1 8
n2 9

What does ans become?

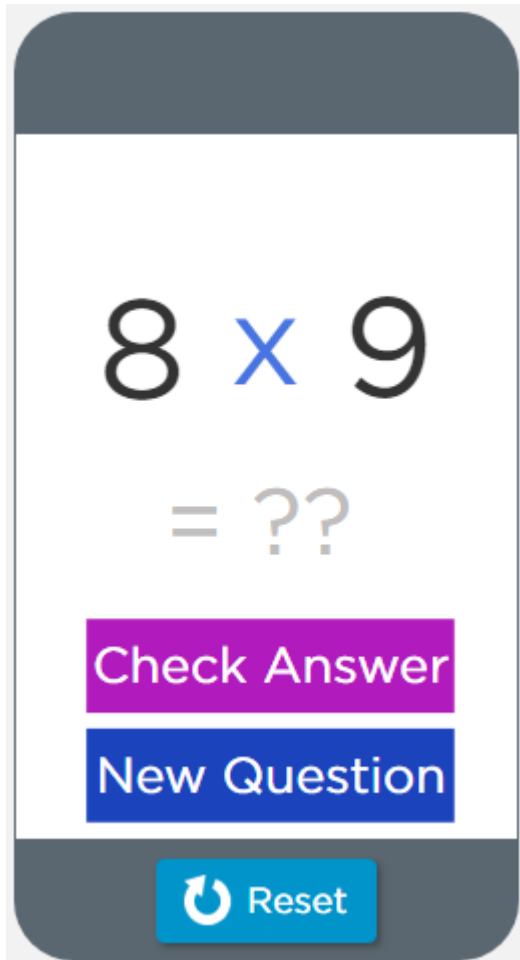


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1 var n1 = 8;  
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3 onEvent (▼ "check", ▼ "click", function (event) {  
4     var ans = n1 * n2;  
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    setText (▼ "answer", "= ??");  
    });
```

ans ?

n1 8

n2 9



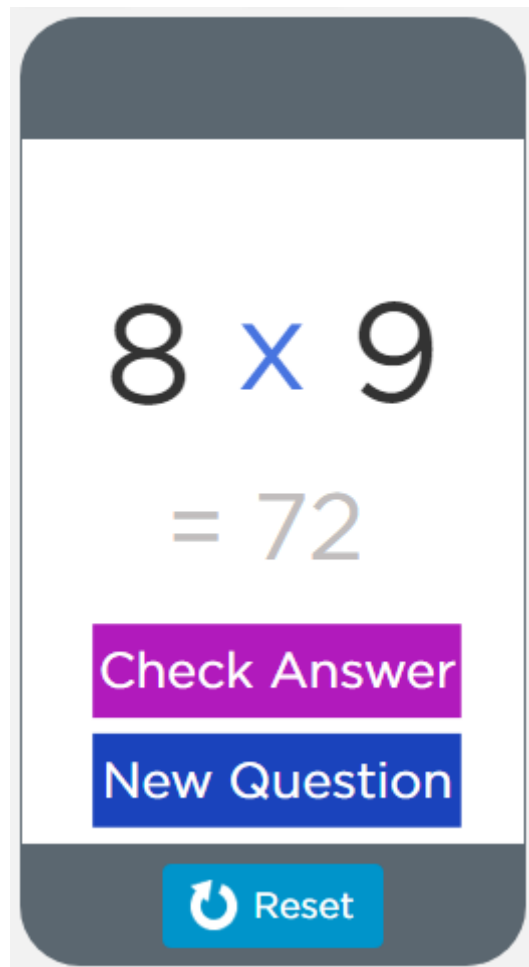
```
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4     var ans = n1 * n2;  
5     setText (▼ "answer", "=" + ans);  
6 }  
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8 onEvent (▼ "newQ", ▼ "click", function (event) {  
9     n1 = randomNumber (1, 9);  
10    n2 = randomNumber (1, 9);  
11    setText (▼ "number1", n1);  
12    setText (▼ "number2", n2);  
    setText (▼ "answer", "= ??");  
    });
```

ans 72

n1 8

n2 9

What widget is changed on the screen?

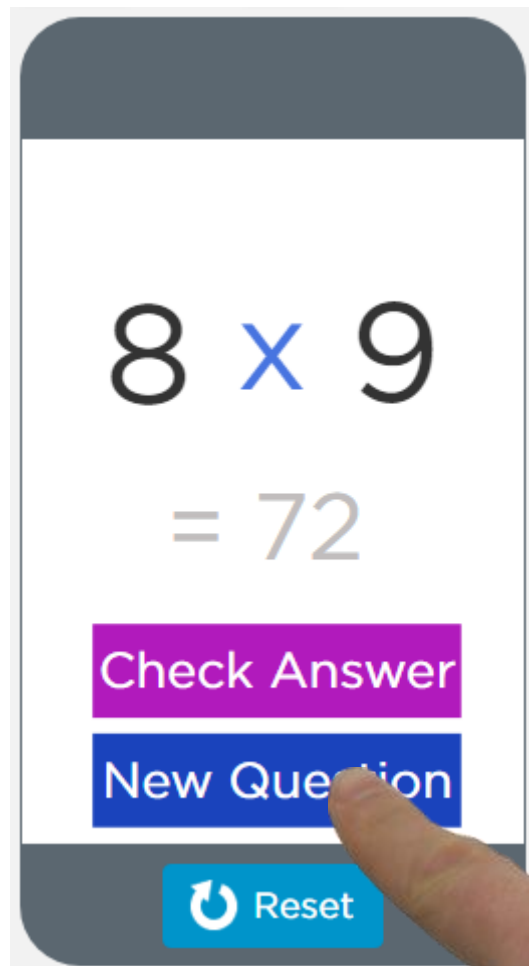


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13    setText (▼ "answer", "= ??");
14 }
15
```

ans 72

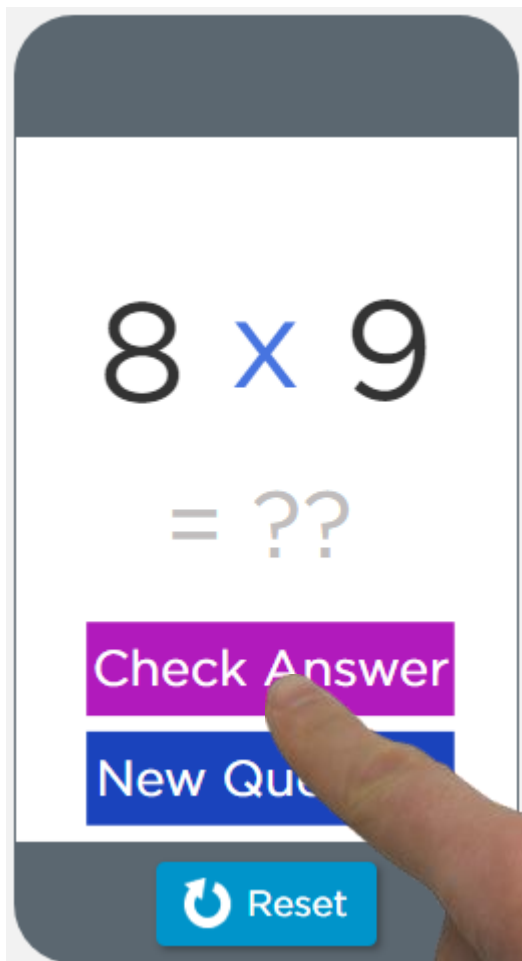
n1 8

n2 9



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14 }
```

n1 8
n2 9

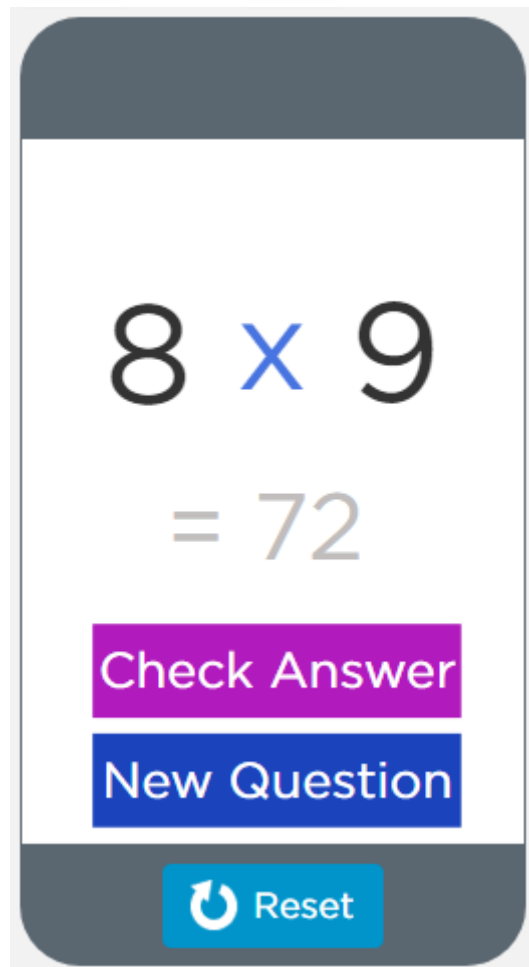


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10    n2 = randomNumber (1, 9);
11    setText (▼ "number1", n1);
12    setText (▼ "number2", n2);
13    setText (▼ "answer", "= ??");
14 }
```

ans 8

n1 8

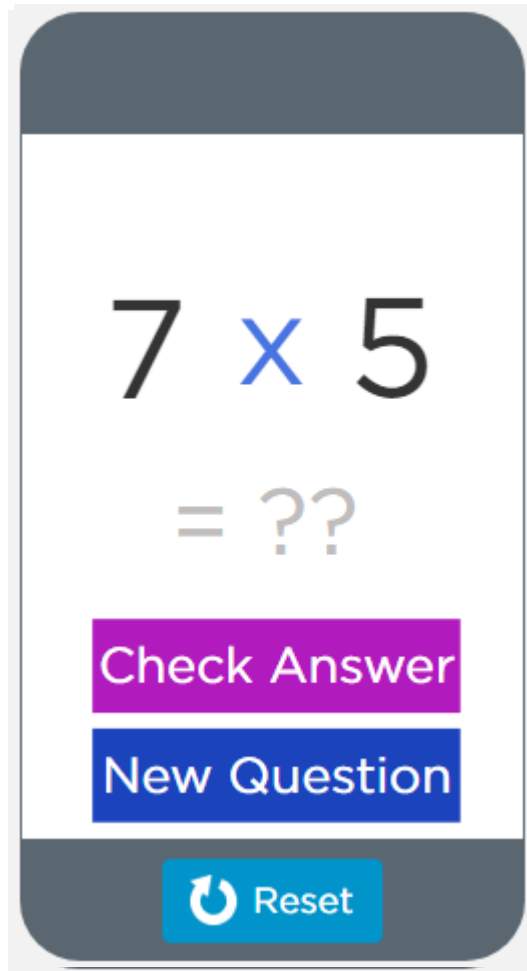
n2 9



```
1 var n1 = 8;  
2 var n2 = 9;  
3 onEvent (▼ "check", ▼ "click", function (event) {  
4   var ans = n1 * n2;  
5   setText (▼ "answer", "=" + ans);  
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9   n1 = randomNumber (1, 9);  
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11  setText (▼ "number1", n1);  
12  setText (▼ "number2", n2);  
13  setText (▼ "answer", "= ??");  
14 }  
15
```

What new values did the computer pick for n1 and n2?

n1 7
n2 5



```
1 var n1 = 8;  
2 var n2 = 9;  
3 onEvent (▼ "check", ▼ "click", function (event) {  
4   var ans = n1 * n2;  
5   setText (▼ "answer", "=" + ans);  
6 }  
7  
8 onEvent (▼ "newQ", ▼ "click", function (event) {  
9   n1 = randomNumber (1, 9);  
10  n2 = randomNumber (1, 9);  
11  setText (▼ "number1", n1);  
12  setText (▼ "number2", n2);  
13  setText (▼ "answer", "= ??");  
14 }  
15
```

What three labels are changed on the screen?

n1 7
n2 5