▶ ACTIVITY 1.2

Using Technology

Making a Table

Using a graphing calculator to create a table can make it easier to evaluate an expression for many different values of the variable.
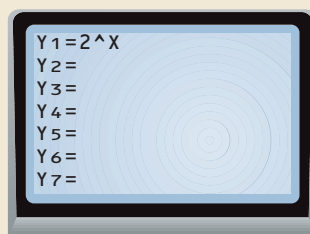
▶ EXAMPLE

You are offered a two penny salary that doubles every week. How much is your salary in the 20th week? Use a graphing calculator to make the table.
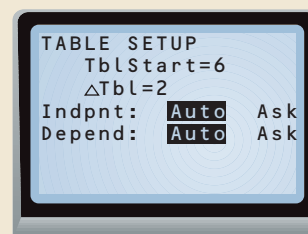
Week, x	1	2	4	6	8	10	12	14	16	18	20
Salary, 2^x	2	4	16	?	?	?	?	?	?	?	?

▶ SOLUTION

STUDENT HELP

INTERNET

KEYSTROKE HELP

See keystrokes for several models of calculators at www.mcdougallittell.com

1 Press [Y=] and enter the expression 2^x as Y_1.

```
Y1=2^X
Y2=
Y3=
Y4=
Y5=
Y6=
Y7=
```

2 Use the Table Setup function to choose values beginning at 6 and increasing by 2.

```
TABLE SETUP
  TblStart=6
  △Tbl=2
Indpnt:  Auto  Ask
Depend:  Auto  Ask
```

3 View your table. Scroll down to read the twentieth week in the table.

```
X    Y1
10   1024
12   4096
14   16384
16   65536
18   262144
20   1.05E6
X=20
```

4 The value for the twentieth week is 1.05 E6. This means 1.05×10^6 or 1,050,000.

```
X    Y1
10   1024
12   4096
14   16384
16   65536
18   262144
20   1.05E6
X=20
```

▶ EXERCISES

EVALUATING EXPRESSIONS Use the table feature on a graphing calculator to evaluate the exponential expression for the given values of x.

1. 2^x for $x = 25, 50, 75, 100$

2. 3^x for $x = 5, 7, 9, 11, 13$

3. 4^x for $x = 2, 3, 4, 5, 6$

4. 5^x for $x = 4, 8, 12, 16$

5. 6^x for $x = 2, 4, 6, 8, 10$

6. 10^x for $x = 4, 7, 10, 13, 16$