

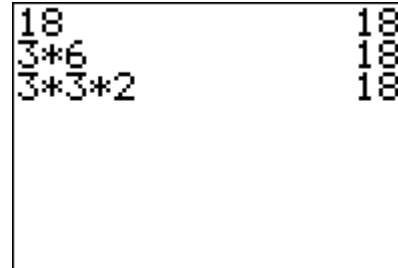
**Problem 1 – Factor Challenge**

With a partner, find the factors of the following numbers. Use the Home screen of the calculator to help. If you cannot find factors, write *prime* for that problem.

Find the factors of 18.

$$18 = 3 \times 6$$

$$18 = 3 \times 3 \times 2$$



1. 72

Factors: _____

2. 36

Factors: _____

3. 125

Factors: _____

4. 91

Factors: _____

5. 64

Factors: _____

6. 41

Factors: _____

Problem 2 – Writing Factors with Exponents

Factors can be shortened by using exponents. For example, the factors of 18, $3 \times 3 \times 2$, can be written as $3^2 \times 2$. Write each factorization using exponents.

7. $3 \times 3 \times 2 \times 2 \times 5 \times 2$

Simplified form:

8. $2 \times 2 \times 3 \times 5 \times 5 \times 5$

Simplified form:

9. $5 \times 3 \times 3 \times 2 \times 2 \times 7$

Simplified form:

10. $3 \times 3 \times 3 \times 7 \times 2$

Simplified form:

11. $2 \times 5 \times 2 \times 5$

Simplified form:

12. $7 \times 9 \times 2$

Simplified form:



Problem 3 – Using Logic Ladder

On the following Logic Ladder screens, circle the appropriate factors.

13.

$A^X * B^Y = 40$		
A:	<input checked="" type="checkbox"/>	2
X:	<input type="checkbox"/>	2
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		

14.

$A^X * B^Y = 225$		
A:	<input checked="" type="checkbox"/>	3
X:	<input type="checkbox"/>	2
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		

15.

$A^X * B^Y = 108$		
A:	<input checked="" type="checkbox"/>	2
X:	<input type="checkbox"/>	3
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		

16.

$A^X * B^Y = 24$		
A:	<input checked="" type="checkbox"/>	2
X:	<input type="checkbox"/>	3
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		

17.

$A^X * B^Y = 75$		
A:	<input checked="" type="checkbox"/>	3
X:	<input type="checkbox"/>	2
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		

18.

$A^X * B^Y = 216$		
A:	<input checked="" type="checkbox"/>	2
X:	<input type="checkbox"/>	3
B:	<input type="checkbox"/>	5
Y:	<input type="checkbox"/>	1
[GIVE UP]		