

PRIME FACTORS USING FACTOR TREES

ANSWERS



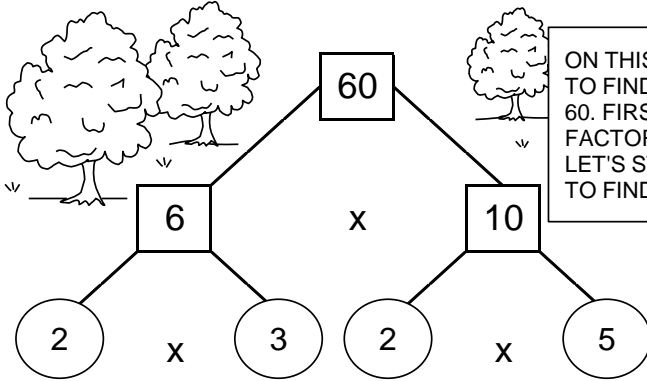
A FACTOR TREE HELPS US FIND THE PRIME FACTORS OF A NUMBER.

PRIME FACTORS?

YES, PRIME NUMBERS ARE NUMBERS THAT HAVE ONLY TWO FACTORS, ONE AND ITSELF.



NOW I REMEMBER. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 51...



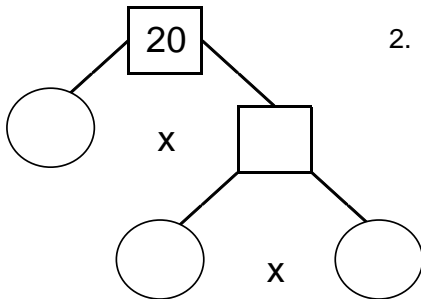
ON THIS PROBLEM WE'RE TRYING TO FIND THE PRIME FACTORS OF 60. FIRST, WE NEED TO FIND TWO FACTORS OF 60. $6 \times 10 = 60$, SO LET'S START THERE. NOW WE NEED TO FIND THE FACTORS OF 6 AND 10.

$$60 = 2 \times 2 \times 3 \times 5 = 2^2 \times 3 \times 5$$

THE SQUARES MEAN WE CAN MAKE THE NUMBERS SMALLER OR FIND MORE FACTORS. THE CIRCLES SHOW THE PRIME NUMBERS BECAUSE WE CAN NOT GO ANY FURTHER.

Now your turn.

1.



$$20 = \frac{\quad}{2 \times 2 \times 5}$$

2.

42

$$2 \times 3 \times 7$$

3.

16

$$2 \times 2 \times 2 \times 2$$

4.

36

$$2 \times 2 \times 3 \times 3$$

5.

50

$$2 \times 5 \times 5$$

6.

24

$$3 \times 2 \times 2 \times 2$$

7.

80

$$2 \times 2 \times 2 \times 2 \times 5$$

8.

54

$$2 \times 3 \times 3 \times 3$$

DID YOU NOTICE THAT NO MATTER WHAT FACTORS YOU START WITH YOU'LL ALWAYS GET THE SAME PRIME FACTORS?

