



## PRIME FACTORIZATION CHALLENGES 2

*See if you can solve these prime factorization challenges!*

### CHALLENGE A

- I am a product of 3 *different* prime numbers.
- My largest prime factor is 13.
- I am between 100 and 200.

Who am I? \_\_\_\_\_

(There are 3 possibilities – can you find them all?)



### CHALLENGE B

- I am the product two different prime factors.
- One of my factors is raised to the 2<sup>nd</sup> power.
- My value is between 5 squared and 8 squared.

Who am I? \_\_\_\_\_

(There are 5 possibilities – can you find them all?)



### CHALLENGE C

- Find the number that is the product of the most prime numbers below 100.

Who am I? \_\_\_\_\_

(There are 2 possibilities – can you find them both?)





## PRIME FACTORIZATION CHALLENGES 2 ANSWERS

See if you can solve these prime factorization challenges!

### CHALLENGE A

- I am a product of 3 *different* prime numbers.
- My largest prime factor is 13.
- I am between 100 and 200.

Who am I?  $2 \times 5 \times 13 = 130$ ;  $2 \times 7 \times 13 = 182$ ;  $3 \times 5 \times 13 = 195$

(There are 3 possibilities – can you find them all?)



### CHALLENGE B

- I am the product two different prime factors.
- One of my factors is raised to the 2<sup>nd</sup> power.
- My value is between 6 squared and 8 squared.

Who am I?  $2^2 \times 11 = 44$ ;  $2^2 \times 13 = 52$ ;  $3^2 \times 5 = 45$ ;  
 $3^2 \times 7 = 63$ ;  $5^2 \times 2 = 50$ ;

(There are 5 possibilities – can you find them all?)



### CHALLENGE C

- Find the number that is the product of the most prime numbers below 100.

Who am I?  $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6 = 64$ ;  $2 \times 2 \times 2 \times 2 \times 2 \times 3 = 2^5 \times 3 = 96$

(There are 2 possibilities – can you find them both?)

