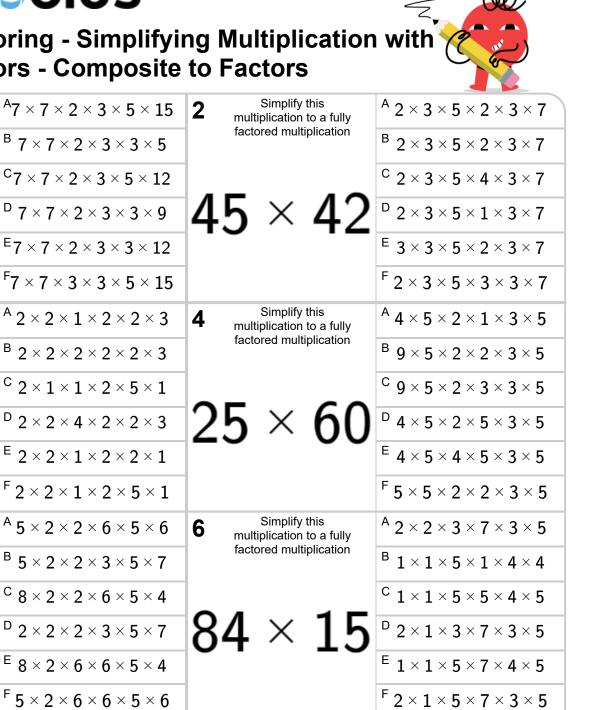# Factoring - Simplifying Multiplication with Factors - Composite to Factors

1 Simplify this multiplication to a fully factored multiplication

$$49 \times 90$$

A $7 \times 7 \times 2 \times 3 \times 5 \times 15$
B $7 \times 7 \times 2 \times 3 \times 3 \times 5$
C $7 \times 7 \times 2 \times 3 \times 5 \times 12$
D $7 \times 7 \times 2 \times 3 \times 3 \times 9$
E $7 \times 7 \times 2 \times 3 \times 3 \times 12$
F $7 \times 7 \times 3 \times 3 \times 5 \times 15$

2 Simplify this multiplication to a fully factored multiplication

$$45 \times 42$$

A $2 \times 3 \times 5 \times 2 \times 3 \times 7$
B $2 \times 3 \times 5 \times 2 \times 3 \times 7$
C $2 \times 3 \times 5 \times 4 \times 3 \times 7$
D $2 \times 3 \times 5 \times 1 \times 3 \times 7$
E $3 \times 3 \times 5 \times 2 \times 3 \times 7$
F $2 \times 3 \times 5 \times 3 \times 3 \times 7$

3 Simplify this multiplication to a fully factored multiplication

$$8 \times 12$$

A $2 \times 2 \times 1 \times 2 \times 2 \times 3$
B $2 \times 2 \times 2 \times 2 \times 2 \times 3$
C $2 \times 1 \times 1 \times 2 \times 5 \times 1$
D $2 \times 2 \times 4 \times 2 \times 2 \times 3$
E $2 \times 2 \times 1 \times 2 \times 2 \times 1$
F $2 \times 2 \times 1 \times 2 \times 5 \times 1$

4 Simplify this multiplication to a fully factored multiplication

$$25 \times 60$$

A $4 \times 5 \times 2 \times 1 \times 3 \times 5$
B $9 \times 5 \times 2 \times 2 \times 3 \times 5$
C $9 \times 5 \times 2 \times 3 \times 3 \times 5$
D $4 \times 5 \times 2 \times 5 \times 3 \times 5$
E $4 \times 5 \times 4 \times 5 \times 3 \times 5$
F $5 \times 5 \times 2 \times 2 \times 3 \times 5$

5 Simplify this multiplication to a fully factored multiplication

$$24 \times 35$$

A $5 \times 2 \times 2 \times 6 \times 5 \times 6$
B $5 \times 2 \times 2 \times 3 \times 5 \times 7$
C $8 \times 2 \times 2 \times 6 \times 5 \times 4$
D $2 \times 2 \times 2 \times 3 \times 5 \times 7$
E $8 \times 2 \times 6 \times 6 \times 5 \times 4$
F $5 \times 2 \times 6 \times 6 \times 5 \times 6$

6 Simplify this multiplication to a fully factored multiplication

$$84 \times 15$$

A $2 \times 2 \times 3 \times 7 \times 3 \times 5$
B $1 \times 1 \times 5 \times 1 \times 4 \times 4$
C $1 \times 1 \times 5 \times 5 \times 4 \times 5$
D $2 \times 1 \times 3 \times 7 \times 3 \times 5$
E $1 \times 1 \times 5 \times 7 \times 4 \times 5$
F $2 \times 1 \times 5 \times 7 \times 3 \times 5$

7 Simplify this multiplication to a fully factored multiplication

$$100 \times 15$$

A $2 \times 2 \times 5 \times 7 \times 3 \times 3$
B $2 \times 2 \times 5 \times 5 \times 3 \times 5$
C $2 \times 2 \times 5 \times 5 \times 3 \times 3$
D $6 \times 2 \times 5 \times 5 \times 3 \times 2$
E $6 \times 3 \times 5 \times 5 \times 3 \times 6$
F $2 \times 3 \times 5 \times 5 \times 3 \times 5$

8 Simplify this multiplication to a fully factored multiplication

$$35 \times 36$$

A $5 \times 7 \times 2 \times 3 \times 3 \times 3$
B $5 \times 7 \times 2 \times 2 \times 3 \times 3$
C $6 \times 7 \times 6 \times 3 \times 3 \times 3$
D $5 \times 7 \times 2 \times 1 \times 3 \times 3$
E $6 \times 7 \times 3 \times 3 \times 3 \times 3$
F $5 \times 7 \times 6 \times 3 \times 3 \times 3$