

REVIEW: Fundamental Counting Principle

Name _____

Key Concept and Vocabulary

- Event 1 can occur in m ways.
- Event 2 can occur in n ways.
- Event 1 followed by Event 2 can occur in $m \times n$ ways.

Multiply.



Visual Model

- 4 flavor choices for 1st scoop
- 4 flavor choices for 2nd scoop

$$4 \times 4 = 16 \text{ "two-scoop" cones}$$



Skill Example

- Event 1 can occur in 6 ways.
Event 2 can occur in 3 ways.
Event 1 followed by Event 2 can occur in
 $6 \times 3 = 18$ ways.

Application Example

- How many outfits can you make using 3 T-shirts and 4 pairs of jeans?

$$3 \times 4 = 12 \text{ outfits}$$

T-shirts jeans



You can make 12 different outfits.

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Check your answers at BigIdeasMath.com.

Find the number of ways that Event 1 can occur followed by Event 2.

- Event 1 can occur in 5 ways.
Event 2 can occur in 6 ways.

- Event 1 can occur in 11 ways.
Event 2 can occur in 11 ways.

- Event 1 can occur in 10 ways.
Event 2 can occur in 3 ways.

- Event 1 can occur in 14 ways.
Event 2 can occur in 4 ways.

Find the number of ways that Event 1 can occur followed by Event 2, followed by Event 3.

- Event 1 can occur in 2 ways.
Event 2 can occur in 4 ways.
Event 3 can occur in 5 ways.

- Event 1 can occur in 8 ways.
Event 2 can occur in 7 ways.
Event 3 can occur in 6 ways.

- OUTFITS** How many different outfits can you make using the T-shirts and jeans shown at the right? _____



- OUTFITS** How many of the outfits have the gray jeans? _____