

# Two Truths and One Lie: Hanukkah Edition

**Directions:** Solve the three equations. Determine which two are true and which one is a lie. Explain your answer to a partner or group by drawing on information from the equations. *Answer Key*



= 2



= 5



= 10

A.  $(\text{dreidel} \times \text{donut}) \times \text{menorah} = \text{dreidel} \times (\text{menorah} \times \text{donut})$

B.  $\text{dreidel} \times \text{menorah} = \text{menorah} \times \text{dreidel}$

C.  $(\text{donut} \times \text{dreidel}) \times \text{menorah} = \text{donut} \times (\text{menorah} \times \text{donut})$

1. Which equations are true? A and B How do you know? I know that A is true because

$5 \times 10 = 50$  and  $50 \times 2 = 100$ . The answer is 100, which is the same as the other

side of the equation:  $2 \times 10 = 20$  and  $20 \times 5 = 100$ . I know that B is true because

the answer is 50 on both sides of the equation ( $5 \times 10 = 10 \times 5$ ).

2. Which equation is a lie? C How do you know? I know that C is a lie because

$10 \times 5 = 50$  and  $50 \times 2 = 100$ . The other side of the equation has an answer of

200 because  $2 \times 10 = 20$  and  $20 \times 10 = 200$ . The two equations are not equal

because they do not have the same answer.