

Crack the Vault Code

Someone locked the vault with a 4-digit code. Work out what each shape is worth and crack it.

Name: _____ Date: _____

1 THE KEY

$$\text{Crescent Moon} = \square \quad \text{Hexagon with ?} = \square \quad \text{Square with ?} = \square \quad \text{Star} = 12 \quad \text{Lightning Bolt} = 11 \quad \text{Diamond} = 6$$

Every symbol is a whole number from 1 to 15. A number in front of a shape means multiply: 2 stars = 2 x star.

2 FIND THE MISSING VALUES

Some shapes in the key are missing. Use these to work them out, in order, and write them into the key.

$$3 \text{ Hexagon} = 21$$

$$\text{Crescent Moon} + \text{Hexagon} = 21$$

$$4 \text{ Square} = 16$$

3 CRACK THESE

$$1. \text{ Lightning Bolt} \times \text{Hexagon} = \square$$

$$2. 3 \text{ Hexagon} + 2 \text{ Crescent Moon} = \square$$

CODE 1

$$3. (\text{Star} + \text{Crescent Moon}) \times \text{Hexagon} = \square$$

$$4. 10 \text{ Diamond} - \text{Lightning Bolt} = \square$$

CODE 2

$$5. 10 \text{ Star} - \text{Square} = \square$$

$$6. \text{ Square} \times \text{Crescent Moon} = \square$$

CODE 3

$$7. \text{ Hexagon} \times \text{Star} - \text{Square} = \square$$

$$8. 3 \text{ Diamond} + 2 \text{ Lightning Bolt} = \square$$

CODE 4

$$9. (\text{Lightning Bolt} - \text{Hexagon}) \times \text{Diamond} = \square$$

$$10. 100 \text{ Square} + \text{Crescent Moon} = \square$$

4 THE VAULT CODE

Write the ONES digit of your answers to problems 2, 4, 6, 8 (the ones tagged CODE 1-4), in that order. That opens the vault.

Answer Key

Crack the Vault Code · Grade 4 Crack the Code

The key

 moon = **14** (hidden)
  hexagon = **7** (hidden)
  square = **4** (hidden)
  star = **12**
 lightning bolt = **11**
  diamond = **6**

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|--|------------|
| 1. |  x  (lightning bolt x hexagon) | 77 |
| 2. | 3  + 2  (3 x hexagon + 2 x moon) | 49 |
| 3. | ( + ) x  ((star + moon) x hexagon) | 182 |
| 4. | 10  -  (10 x diamond - lightning bolt) | 49 |
| 5. | 10  -  (10 x star - square) | 116 |
| 6. |  x  (square x moon) | 56 |
| 7. |  x  -  (hexagon x star - square) | 80 |
| 8. | 3  + 2  (3 x diamond + 2 x lightning bolt) | 40 |
| 9. | ( - ) x  ((lightning bolt - hexagon) x diamond) | 24 |
| 10. | 100  +  (100 x square + moon) | 414 |

Vault code: **9960**