



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

$$\blacktriangle = 12 \quad \star = 2 \quad \diamondsuit = \square \quad \bullet = 5 \quad \blacksquare = 11 \quad \text{⚡} = \square$$

Every symbol is a whole number from 1 to 12. 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.

$$\blacklozenge + \blacklozenge + \blacklozenge = 21$$

$$\text{⚡} + \star = 12$$

3 CRACK THESE

$$1. \blacktriangle \times \bullet = \square$$

$$2. \text{⚡} \times \bullet = \square$$

CODE 1

$$3. 10 \text{⚡} + \blacktriangle = \square$$

$$4. 3 \blacksquare - \blacklozenge = \square$$

CODE 2

$$5. \text{⚡} \times \star + \blacksquare = \square$$

$$6. 2 \star + \text{⚡} = \square$$

CODE 3

$$7. \text{⚡} \times \bullet + \blacksquare = \square$$

$$8. 10 \bullet + \blacksquare = \square$$

CODE 4

$$9. 2 \blacklozenge + \blacktriangle = \square$$

$$10. \star \times \text{⚡} - \blacktriangle = \square$$

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 3 Crack the Code

The key

▲ triangle = **12** ★ star = **2** ◆ diamond = **7** (hidden) ● circle = **5** ■ square = **11**
 ⚡ lightning bolt = **10** (hidden)

Every symbol is a whole number from 1 to 12.

- | | |
|---|------------|
| 1. ▲ × ● (triangle x circle) | 60 |
| 2. ⚡ × ● (lightning bolt x circle) | 50 |
| 3. 10 ⚡ + ▲ (10 x lightning bolt + triangle) | 112 |
| 4. 3 ■ - ◆ (3 x square - diamond) | 26 |
| 5. ⚡ × ★ + ■ (lightning bolt x star + square) | 31 |
| 6. 2 ★ + ⚡ (2 x star + lightning bolt) | 14 |
| 7. ⚡ × ● + ■ (lightning bolt x circle + square) | 61 |
| 8. 10 ● + ■ (10 x circle + square) | 61 |
| 9. 2 ◆ + ▲ (2 x diamond + triangle) | 26 |
| 10. ★ × ⚡ - ▲ (star x lightning bolt - triangle) | 8 |

Vault code: **0 6 4 1**