



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

$$\triangle = \square \quad \heartsuit = \square \quad \bigcirc = 4 \quad \text{⚡} = \square \quad \blacklozenge = 15 \quad \bullet = 11$$

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.

$$\blacktriangle + \bigcirc = 17$$

$$\text{⚡} + \blacktriangle = 22$$

$$\bullet - \heartsuit = 1$$

3 CRACK THESE

$$1. \bullet \times \text{⚡} - \blacklozenge = \square$$

$$2. 10\blacklozenge - \text{⚡} = \square$$

CODE 1

$$3. \bullet \times \blacktriangle = \square$$

$$4. \heartsuit \times \text{⚡} + \blacklozenge = \square$$

CODE 2

$$5. \blacktriangle \times \blacklozenge = \square$$

$$6. 100\heartsuit + \bullet = \square$$

CODE 3

$$7. 3\bullet + 2\blacklozenge = \square$$

$$8. 100\blacklozenge + \bullet = \square$$

CODE 4

$$9. 3\bullet + 2\heartsuit = \square$$

$$10. (\blacktriangle + \text{⚡}) \times \bigcirc = \square$$

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

▲ triangle = **13** (hidden) ♥ heart = **10** (hidden) ○ ring = **4** ⚡ lightning bolt = **9** (hidden)
 ◆ diamond = **15** ● circle = **11**

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|--|-------------|
| 1. | ● × ⚡ - ◆ (circle x lightning bolt - diamond) | 84 |
| 2. | 10◆ - ⚡ (10 x diamond - lightning bolt) | 141 |
| 3. | ● × ▲ (circle x triangle) | 143 |
| 4. | ♥ × ⚡ + ◆ (heart x lightning bolt + diamond) | 105 |
| 5. | ▲ × ◆ (triangle x diamond) | 195 |
| 6. | 100♥ + ● (100 x heart + circle) | 1011 |
| 7. | 3● + 2◆ (3 x circle + 2 x diamond) | 63 |
| 8. | 100◆ + ● (100 x diamond + circle) | 1511 |
| 9. | 3● + 2♥ (3 x circle + 2 x heart) | 53 |
| 10. | (▲ + ⚡) × ○ ((triangle + lightning bolt) x ring) | 88 |

Vault code: **1 5 1 1**