



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

$$\diamond = \square \quad \text{☾} = 7 \quad \bullet = 4 \quad + = 10 \quad \heartsuit = 8 \quad ? = \square$$

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.

$$\blacklozenge + \heartsuit = 20$$

$$+ - \bigcirc = 8$$

3 CRACK THESE

$$1. \bigcirc \times \heartsuit + + = \square$$

$$2. 10 \text{ ☾} + \blacklozenge = \square$$

CODE 1

$$3. + \times \text{☾} - \heartsuit = \square$$

$$4. \text{☾} \times \heartsuit - \bigcirc = \square$$

CODE 2

$$5. 2+ + \heartsuit = \square$$

$$6. \bullet \times \blacklozenge + \text{☾} = \square$$

CODE 3

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

$$8. 5\heartsuit - \text{☾} = \square$$

CODE 4

$$9. \text{☾} \times \blacklozenge = \square$$

$$10. \heartsuit + \bigcirc + \bullet = \square$$

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

◆ diamond = 12 (hidden) ☾ moon = 7 ● circle = 4 + cross = 10 ♥ heart = 8
 ○ ring = 2 (hidden)

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|-------------------------------------|----|
| 1. | ○ × ♥ + + (ring x heart + cross) | 26 |
| 2. | 10 ☾ + ◆ (10 x moon + diamond) | 82 |
| 3. | + × ☾ - ♥ (cross x moon - heart) | 62 |
| 4. | ☾ × ♥ - ○ (moon x heart - ring) | 54 |
| 5. | 2+ + ♥ (2 x cross + heart) | 28 |
| 6. | ● × ◆ + ☾ (circle x diamond + moon) | 55 |
| 7. | 2● + + (2 x circle + cross) | 18 |
| 8. | 5♥ - ☾ (5 x heart - moon) | 33 |
| 9. | ☾ × ◆ (moon x diamond) | 84 |
| 10. | ♥ + ○ + ● (heart + ring + circle) | 14 |

Vault code: **2 4 5 3**