



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

$$\text{Crescent Moon} = \square \quad \text{Heart} = \square \quad \text{Pentagon} = 5 \quad \text{Question Mark} = \square \quad \text{Square} = 3 \quad \text{Circle} = 13$$

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.

$$\text{Crescent Moon} + \text{Circle} = 28$$

$$\text{Heart} \times \text{Crescent Moon} = 180$$

$$\text{Star} + \text{Star} + \text{Star} = 42$$

3 CRACK THESE

$$1. \text{Heart} \times \text{Circle} - \text{Crescent Moon} = \square$$

$$2. \text{Pentagon} \times \text{Crescent Moon} + \text{Heart} = \square$$

CODE 1

$$3. \text{Circle} \times \text{Square} - \text{Pentagon} = \square$$

$$4. \text{Star} \times \text{Circle} = \square$$

CODE 2

$$5. (\text{Heart} - \text{Pentagon}) \times \text{Square} = \square$$

$$6. (\text{Star} + \text{Square}) \times \text{Heart} = \square$$

CODE 3

$$7. \text{Square} \times \text{Crescent Moon} = \square$$

$$8. \text{Pentagon} \times \text{Crescent Moon} + \text{Circle} = \square$$

CODE 4

$$9. 3 \text{Pentagon} + 2 \text{Star} = \square$$

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

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 = **15** (hidden)
  heart = **12** (hidden)
  pentagon = **5**
  circle = **14** (hidden)
  square = **3**
 ring = **13**

Every symbol is a whole number from 1 to 15.

1.  ×  -  (heart x ring - moon) **141**
2.  ×  +  (pentagon x moon + heart) **87**
3.  ×  -  (ring x square - pentagon) **34**
4.  ×  (circle x ring) **182**
5. ( - ) ×  ((heart - pentagon) x square) **21**
6. ( + ) ×  ((circle + square) x heart) **204**
7.  ×  (square x moon) **45**
8.  ×  +  (pentagon x moon + ring) **88**
9. **3**  + **2**  (3 x pentagon + 2 x circle) **43**
10. **100**  +  (100 x circle + moon) **1415**

Vault code: **7 2 4 8**