

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

$$\text{?} = \square \quad \blacktriangle = 9 \quad \text{?} = \square \quad \text{?} = \square \quad \heartsuit = 7 \quad + = 15$$

Every symbol is a whole number from 1 to 20. 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.

$$\bigcirc + + = 23$$

$$\bullet + + = 32$$

$$2 \blacksquare = 28$$

3 CRACK THESE

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

$$2. \bigcirc \times \bullet + \heartsuit \times + = \square$$

CODE 1

$$3. \heartsuit \times \bullet + + \times \blacksquare = \square$$

$$4. \blacksquare \times \heartsuit - \blacktriangle \times \bigcirc = \square$$

CODE 2

$$5. 3\bigcirc + 2+ = \square$$

$$6. + \times \blacktriangle \times \bullet = \square$$

CODE 3

$$7. \bigcirc \div 2 + + = \square$$

$$8. \bigcirc \div 2 + \heartsuit = \square$$

CODE 4

$$9. \blacktriangle \times \bigcirc - \blacksquare = \square$$

$$10. \blacktriangle \times \bullet \times \bigcirc = \square$$

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 5 Crack the Code

The key

 ring = **8** (hidden)
  triangle = **9**
  hexagon = **14** (hidden)
  circle = **17** (hidden)
  heart = **7**
 cross = **15**

Every symbol is a whole number from 1 to 20.

1.  +  ×  (circle + hexagon x triangle) **143**
2.  ×  +  ×  (ring x circle + heart x cross) **241**
3.  ×  +  ×  (heart x circle + cross x hexagon) **329**
4.  ×  -  ×  (hexagon x heart - triangle x ring) **26**
5. **3**  + **2**  (3 x ring + 2 x cross) **54**
6.  ×  ×  (cross x triangle x circle) **2295**
7.  ÷ **2** +  (ring / 2 + cross) **19**
8.  ÷ **2** +  (ring / 2 + heart) **11**
9.  ×  -  (triangle x ring - hexagon) **58**
10.  ×  ×  (triangle x circle x ring) **1224**

Vault code: **1 6 5 1**