

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

$$\text{?} = \square \quad \text{⚡} = 6 \quad \text{♥} = 8 \quad \text{◇} = \square \quad \bullet = 13 \quad \boxed{?} = \square$$

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.

$$\text{☾} \times \bullet = 91$$

$$\text{☾} - \text{◇} = 3$$

$$\blacksquare + \blacksquare + \blacksquare = 15$$

3 CRACK THESE

$$1. \text{♥} \times \text{☾} + \blacksquare = \square$$

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

CODE 1

$$3. \text{☾} \times \blacksquare - \text{♥} = \square$$

$$4. \text{◇} \times \text{⚡} - \bullet = \square$$

CODE 2

$$5. (\text{⚡} + \text{♥}) \times \text{☾} = \square$$

$$6. \text{⚡} \times \text{◇} = \square$$

CODE 3

$$7. (\text{☾} + \blacksquare) \times \text{♥} = \square$$

$$8. 10 \text{⚡} - \text{☾} = \square$$

CODE 4

$$9. \blacksquare \times \text{♥} \div \text{◇} = \square$$

$$10. 100 \text{♥} + \text{⚡} = \square$$

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 = 7 (hidden)
  lightning bolt = 6
  heart = 8
  diamond = 4 (hidden)
  circle = 13
 square = 5 (hidden)

Every symbol is a whole number from 1 to 15.

1. $\heartsuit \times \text{moon} + \blacksquare$ (heart x moon + square) 61
2. $\text{lightning bolt} \times \bullet + \heartsuit$ (lightning bolt x circle + heart) 86
3. $\text{moon} \times \blacksquare - \heartsuit$ (moon x square - heart) 27
4. $\diamond \times \text{lightning bolt} - \bullet$ (diamond x lightning bolt - circle) 11
5. $(\text{lightning bolt} + \heartsuit) \times \text{moon}$ ((lightning bolt + heart) x moon) 98
6. $\text{lightning bolt} \times \diamond$ (lightning bolt x diamond) 24
7. $(\text{moon} + \blacksquare) \times \heartsuit$ ((moon + square) x heart) 96
8. $10 \times \text{lightning bolt} - \text{moon}$ (10 x lightning bolt - moon) 53
9. $\blacksquare \times \heartsuit \div \diamond$ (square x heart / diamond) 10
10. $100 \times \heartsuit + \text{lightning bolt}$ (100 x heart + lightning bolt) 806

Vault code: **6 1 4 3**