



# The Deep Space Cipher

Calculate the numerical value of each orbital shape to crack the four-digit sequence.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## 1 THE KEY

$$\begin{array}{l} \text{?} = \square \\ \star = \square \\ \text{☾} = 15 \\ \bullet = 14 \\ \square = \square \\ \blacklozenge = 16 \end{array}$$

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.

$$\blacksquare + \text{☾} = 35$$

$$\star \times \blacksquare = 240$$

$$5 \blacklozenge = 25$$

## 3 CRACK THESE

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

$$2. 10 \blacklozenge - \star = \square$$

CODE 1

$$3. \blacksquare \div 2 + \blacklozenge = \square$$

$$4. \blacksquare \times \text{☾} - \star = \square$$

CODE 2

$$5. 10 \bullet - \text{☾} = \square$$

$$6. \blacklozenge \times \bullet - \blacksquare = \square$$

CODE 3

$$7. (\star + \blacksquare) \times \bullet = \square$$

$$8. \text{☾} \times \blacksquare \times \blacklozenge = \square$$

CODE 4

$$9. \star \times \bullet + \blacklozenge \times \blacklozenge = \square$$

$$10. (\blacklozenge + \star) \times \bullet = \square$$

## 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 secure cargo bay.

# Answer Key

The Deep Space Cipher · Grade 5 Crack the Code

## The key

 hexagon = **5** (hidden)   
  moon = **15**   
  circle = **14**   
  square = **20** (hidden)   
  diamond = **16**  
 star = **12** (hidden)

Every symbol is a whole number from 1 to 20.

1.  +  ×  (square + moon x hexagon) **95**
2. **10**  -  (10 x diamond - star) **148**
3.  ÷ **2** +  (square / 2 + diamond) **26**
4.  ×  -  (square x moon - star) **288**
5. **10**  -  (10 x circle - moon) **125**
6.  ×  -  (diamond x circle - square) **204**
7. ( + ) ×  ((star + square) x circle) **448**
8.  ×  ×  (moon x square x diamond) **4800**
9.  ×  +  ×  (star x circle + hexagon x diamond) **248**
10. ( + ) ×  ((diamond + star) x circle) **392**

Vault code: **8840**