The Imperial Map Mystery

Grade 4 math · Place value, Rounding, Addition, Subtraction, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

An ancient, priceless map showing the secret borders of the lost empires has been stolen from the Imperial Archive. The Chief Archivist needs your help to track down the historical thief before they sell the map to the highest bidder!

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

My answer: the Rogue Cartographer is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	EMPIRE SPECIALTY	SECRET RESOURCE	WRITING HAND	HAIR STYLE	KNOWN WEAKNESS
Genghis	Mongol horse archery	Bronze compasses	Left handed writing	Braided hair	Allergic to horse fur
Charlemagne	Egyptian stone masonry	Spices and gold	Right handed writing	Short cropped hair	Afraid of deep water
Montezuma	Egyptian stone masonry	Spices and gold	Left handed writing	Short cropped hair	Allergic to horse fur
Cyrus	Aztec canal systems	Spices and gold	Right handed writing	Short cropped hair	Afraid of deep water
Leonidas	Mongol horse archery	Spices and gold	Left handed writing	Braided hair	Allergic to horse fur
Mansa Musa	Aztec canal systems	Spices and gold	Right handed writing	Short cropped hair	Cannot stand the cold
Alfred	Mongol horse archery	Spices and gold	Left handed writing	Braided hair	Cannot stand the cold
Kublai	Viking shipbuilding	Bronze compasses	Left handed writing	Short cropped hair	Allergic to horse fur
Isabella	Roman legion tactics	Silk road maps	Left handed writing	Short cropped hair	Allergic to horse fur
Suleiman	Aztec canal systems	Papyrus scrolls	Left handed writing	Short cropped hair	Allergic to horse fur
Nefertiti	Aztec canal systems	Silk road maps	Right handed writing	Braided hair	Allergic to horse fur
Theodora	Viking shipbuilding	Papyrus scrolls	Left handed writing	Short cropped hair	Afraid of deep water
Julius	Mongol horse archery	Astrolabe charts	Right handed writing	Short cropped hair	Allergic to horse fur
Hammurabi	Egyptian stone masonry	Spices and gold	Left handed writing	Wavy shoulder hair	Afraid of deep water
Atahualpa	Roman legion tactics	Spices and gold	Left handed writing	Braided hair	Afraid of deep water
Pachacuti	Roman legion tactics	Bronze compasses	Left handed writing	Short cropped hair	Afraid of deep water
Alexander	Viking shipbuilding	Astrolabe charts	Left handed writing	Short cropped hair	Allergic to horse fur
Darius	Aztec canal systems	Bronze compasses	Left handed writing	Braided hair	Allergic to horse fur
Justinian	Egyptian stone masonry	Papyrus scrolls	Right handed writing	Short cropped hair	Allergic to horse fur
Ashoka	Roman legion tactics	Spices and gold	Right handed writing	Wavy shoulder hair	Afraid of deep water
Zenobia	Mongol horse archery	Papyrus scrolls	Left handed writing	Short cropped hair	Cannot stand the cold

CLUE 1 Place value

We found a secret code book used by the thief. The digit in the hundreds place reveals the hidden locker.

Solve each problem, then write its letter in every clue box that shows the same number.

T			T											T									
400	500	90	400	500	10	90	50	4000	6000	90	5000	3000	6000	400	20	5000	90						
5000	300	10	800	90	5000	700	3000	4000	7000	6000	8000	4000											

What is the value of the 4 in 491? ☐ → T

What is the value of the 5 in 573? ☐ → H

What is the value of the 2 in 4,120? ☐ → U

What is the value of the 7 in 780? ☐ → A

What is the value of the 1 in 2,415? ☐ → I

What is the value of the 4 in 4,380? ☐ → D

What is the value of the 8 in 8,673? ☐ → L

What is the value of the 8 in 896? ☐ → C

What is the value of the 7 in 17,039? ☐ → G

What is the value of the 9 in 192? ☐ → E

What is the value of the 6 in 6,729? ☐ → O

What is the value of the 3 in 83,655? ☐ → N

What is the value of the 5 in 5,643? ☐ → S

What is the value of the 5 in 759? ☐ → F

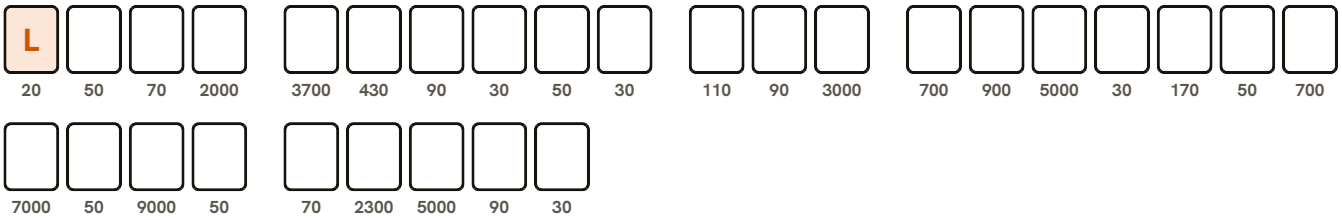
What is the value of the 3 in 7,322? ☐ → P

Scratch space:

CLUE 2 Rounding

A scout reported seeing the suspect running away. He had to round the distance to the nearest ten miles to map it.

Solve each problem, then write its letter in every clue box that shows the same number.



Round 23 to the nearest ten ☐ → L

Round 430 to the nearest ten ☐ → A

Round 6,729 to the nearest thousand ☐ → W

Round 915 to the nearest hundred ☐ → M

Round 31 to the nearest ten ☐ → D

Round 686 to the nearest hundred ☐ → S

Round 2,296 to the nearest hundred ☐ → O

Round 174 to the nearest ten ☐ → G

Round 2,630 to the nearest thousand ☐ → K

Round 1,557 to the nearest thousand ☐ → T

Round 51 to the nearest ten ☐ → E

Round 8,936 to the nearest thousand ☐ → R

Round 108 to the nearest ten ☐ → I

Round 71 to the nearest ten ☐ → F

Round 3,688 to the nearest hundred ☐ → H

Round 90 to the nearest ten ☐ → N

Round 4,701 to the nearest thousand ☐ → U

Scratch space:

CLUE 3 Addition

To find the suspect's supply route, we must add up all the trading outposts along the Silk Road.

Solve each problem, then write its letter in every clue box that shows the same number.

3848 + 1836 = ☐ → S	4630 + 3768 = ☐ → A	1858 + 1108 = ☐ → T
2195 + 1257 = ☐ → L	1033 + 1709 = ☐ → D	1122 + 1374 = ☐ → G
6550 + 3197 = ☐ → E	2360 + 1237 = ☐ → O	1013 + 2042 = ☐ → Z
3908 + 1736 = ☐ → I	1747 + 2222 = ☐ → H	2110 + 4876 = ☐ → N
1406 + 1365 = ☐ → R	3027 + 4266 = ☐ → B	891 + 1931 = ☐ → U

Scratch space:

CLUE 4 Subtraction

We can calculate how much gold the thief stole by subtracting the remaining coins from the vault total.

Solve each problem, then write its letter in every clue box that shows the same number.

13161 - 4413 = ☐ → S

2897 - 1880 = ☐ → N

12562 - 4542 = ☐ → O

8115 - 602 = ☐ → W

8267 - 36 = ☐ → I

8543 - 1917 = ☐ → P

6954 - 2382 = ☐ → H

9308 - 3922 = ☐ → T

5232 - 1546 = ☐ → D

2690 - 1427 = ☐ → A

9931 - 4162 = ☐ → E

9840 - 3000 = ☐ → R

7582 - 1246 = ☐ → C

Scratch space:

CLUE 5 Division facts (1-12) - the last clue

> The chief investigator wants to divide the search area equally among our fast horse riders.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

Step 1 - solve these:

16 ÷ 2 = ☐ | 4 ÷ 2 = ☐ | 110 ÷ 11 = ☐ | 77 ÷ 11 = ☐ | 88 ÷ 8 = ☐

108 ÷ 9 = ☐ | 4 ÷ 4 = ☐ | 27 ÷ 9 = ☐ | 18 ÷ 3 = ☐ | 90 ÷ 10 = ☐

30 ÷ 6 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain builds the lake canals, then consults the astrolabe charts.
2. The villain sails the longships, then consults the astrolabe charts.
3. The villain carves the limestone, then polishes the bronze compasses.
4. The villain sails the longships, then polishes the bronze compasses.
5. The villain sails the longships, then steals silk road maps.
6. The villain carves the limestone, then hoards the spices and gold.
7. The villain sails the longships, then hides the papyrus scrolls.
8. The villain builds the lake canals, then hides the papyrus scrolls.
9. The villain marches with the legions, then hides the papyrus scrolls.
10. The villain marches with the legions, then steals silk road maps.
11. The villain marches with the legions, then polishes the bronze compasses.
12. The villain marches with the legions, then hoards the spices and gold.

TEACHER / PARENT

Answer Key

The Imperial Map Mystery

Culprit: Kublai

Viking shipbuilding · Bronze compasses · Left handed writing · Short cropped hair · Allergic to horse fur

Trail: Start 21 → Clue 1 12 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE SPICES AND GOLD"

What is the value of the 4 in 491? = 400 (T) · What is the value of the 5 in 573? = 500 (H) · What is the value of the 2 in 4,120? = 20 (U) · What is the value of the 7 in 780? = 700 (A) · What is the value of the 1 in 2,415? = 10 (I) · What is the value of the 4 in 4,380? = 4000 (D) · What is the value of the 8 in 8,673? = 8000 (L) · What is the value of the 8 in 896? = 800 (C) · What is the value of the 7 in 17,039? = 7000 (G) · What is the value of the 9 in 192? = 90 (E) · What is the value of the 6 in 6,729? = 6000 (O) · What is the value of the 3 in 83,655? = 3000 (N) · What is the value of the 5 in 5,643? = 5000 (S) · What is the value of the 5 in 759? = 50 (F) · What is the value of the 3 in 7,322? = 300 (P)

Clue 2 (Rounding): "LEFT HANDED INK SMUDGES WERE FOUND"

Round 23 to the nearest ten = 20 (L) · Round 430 to the nearest ten = 430 (A) · Round 6,729 to the nearest thousand = 7000 (W) · Round 915 to the nearest hundred = 900 (M) · Round 31 to the nearest ten = 30 (D) · Round 686 to the nearest hundred = 700 (S) · Round 2,296 to the nearest hundred = 2300 (O) · Round 174 to the nearest ten = 170 (G) · Round 2,630 to the nearest thousand = 3000 (K) · Round 1,557 to the nearest thousand = 2000 (T) · Round 51 to the nearest ten = 50 (E) · Round 8,936 to the nearest thousand = 9000 (R) · Round 108 to the nearest ten = 110 (I) · Round 71 to the nearest ten = 70 (F) · Round 3,688 to the nearest hundred = 3700 (H) · Round 90 to the nearest ten = 90 (N) · Round 4,701 to the nearest thousand = 5000 (U)

Clue 3 (Addition): "SNEEZING SOUNDS HEARD NEAR THE STABLES"

3848 + 1836 = 5684 (S) · 4630 + 3768 = 8398 (A) · 1858 + 1108 = 2966 (T) · 2195 + 1257 = 3452 (L) · 1033 + 1709 = 2742 (D) · 1122 + 1374 = 2496 (G) · 6550 + 3197 = 9747 (E) · 2360 + 1237 = 3597 (O) · 1013 + 2042 = 3055 (Z) · 3908 + 1736 = 5644 (I) · 1747 + 2222 = 3969 (H) · 2110 + 4876 = 6986 (N) · 1406 + 1365 = 2771 (R) · 3027 + 4266 = 7293 (B) · 891 + 1931 = 2822 (U)

Clue 4 (Subtraction): "SHORT CROPPED HAIR WAS ON THE CHAIR"

13161 - 4413 = 8748 (S) · 2897 - 1880 = 1017 (N) · 12562 - 4542 = 8020 (O) · 8115 - 602 = 7513 (W) · 8267 - 36 = 8231 (I) · 8543 - 1917 = 6626 (P) · 6954 - 2382 = 4572 (H) · 9308 - 3922 = 5386 (T) · 5232 - 1546 = 3686 (D) · 2690 - 1427 = 1263 (A) · 9931 - 4162 = 5769 (E) · 9840 - 3000 = 6840 (R) · 7582 - 1246 = 6336 (C)

Clue 5 (Division facts (1-12)): surviving statement is box 4 → Kublai

16 ÷ 2 = 8 · 4 ÷ 2 = 2 · 110 ÷ 11 = 10 · 77 ÷ 11 = 7 · 88 ÷ 8 = 11 · 108 ÷ 9 = 12 · 4 ÷ 4 = 1 · 27 ÷ 9 = 3 · 18 ÷ 3 = 6 · 90 ÷ 10 = 9 · 30 ÷ 6 = 5