



The Sky Pirate Compass Caper

Grade 4 math · Rounding, Multi-step word problems, Bar models, Place value, Division · Reading level grades 3-4

Detective: _____ Date: _____

Someone sneaked into the Chief Navigator's tent and took the ancient Golden Compass! Solve the clues to find the Sky Raider.

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 Sky Raider is _____

Possible suspects

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

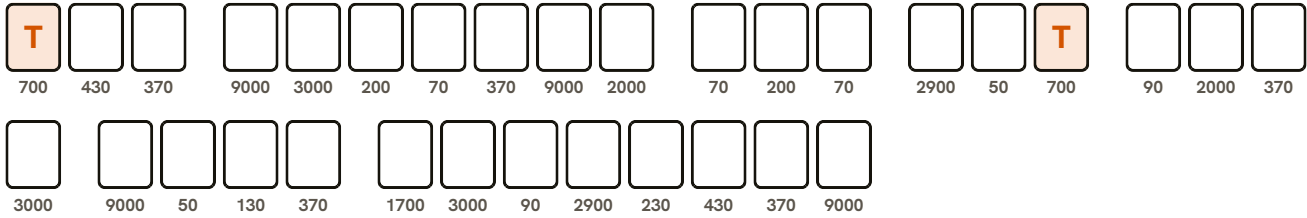
NAME	GEAR ITEM	SIDE GADGET	DOMINANT HAND	HAIR STYLE	TRAP WEAKNESS
Felix	Glider Wings	Signal Mirror	Left Handed	Curly Brown	Bright Light
Amelia	Map Scanner	Smoke Bomb	Left Handed	Curly Brown	Sneeze Powder
Oscar	Grappling Hook	Flash Beacon	Left Handed	Spiky Red	Bright Light
Milo	Grappling Hook	Flash Beacon	Left Handed	Spiky Red	Loud Whistle
Luna	Glider Wings	Flash Beacon	Left Handed	Sleek Black	Sneeze Powder
Marco	Wind Whistle	Signal Mirror	Right Handed	Sleek Black	Sneeze Powder
Orville	Grappling Hook	Signal Mirror	Right Handed	Curly Brown	Sneeze Powder
Ezra	Map Scanner	Signal Mirror	Left Handed	Curly Brown	Bright Light
Nora	Map Scanner	Flash Beacon	Left Handed	Spiky Red	Loud Whistle
Ivy	Glider Wings	Signal Mirror	Left Handed	Sleek Black	Bright Light
Chloe	Grappling Hook	Signal Mirror	Right Handed	Sleek Black	Loud Whistle
Tess	Compass Ring	Flare Gun	Right Handed	Curly Brown	Sneeze Powder
Finn	Glider Wings	Flare Gun	Right Handed	Curly Brown	Bright Light
Ruby	Grappling Hook	Rope Launcher	Right Handed	Curly Brown	Sneeze Powder
Eli	Grappling Hook	Flare Gun	Left Handed	Sleek Black	Bright Light
Piper	Glider Wings	Flash Beacon	Left Handed	Spiky Red	Sneeze Powder
Wilbur	Compass Ring	Flash Beacon	Right Handed	Sleek Black	Bright Light
Sonia	Grappling Hook	Flare Gun	Right Handed	Curly Brown	Sneeze Powder
Maya	Map Scanner	Smoke Bomb	Right Handed	Sleek Black	Loud Whistle
Hugo	Map Scanner	Rope Launcher	Left Handed	Curly Brown	Bright Light
Hazel	Wind Whistle	Flare Gun	Right Handed	Curly Brown	Sneeze Powder

CLUE 1

Rounding

You check the camp inventory log and compare gear boxes using bar models to see what was taken.

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



Round 675 to the nearest hundred → **T**

Round 173 to the nearest hundred → **I**

Round 8,997 to the nearest thousand → **R**

Round 70 to the nearest ten → **D**

Round 50 to the nearest ten → **O**

Round 91 to the nearest ten → **U**

Round 133 to the nearest ten → **P**

Round 2,884 to the nearest thousand → **A**

Round 368 to the nearest ten → **E**

Round 1,694 to the nearest hundred → **L**

Round 2,013 to the nearest thousand → **S**

Round 227 to the nearest ten → **C**

Round 2,871 to the nearest hundred → **N**

Round 432 to the nearest ten → **H**

Scratch space:

CLUE 2

Multi-step word problems

You interview the camp guards and add up the steps in their patrol routes.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was R D E D .

58 30 6 27 54 27 37 81

Junior Scout earned 7 climbing ropes in each of 4 rounds, plus 32 bonus climbing ropes. Then 2 climbing ropes were lost. How many climbing ropes are left?

Answer: → R

Junior Scout collected 65 climbing ropes in the morning and 259 climbing ropes in the afternoon, then split them equally among 6 Cloud Patrol. How many climbing ropes did each get?

Answer: → T

Junior Scout earned 2 compasses in each of 6 rounds, plus 24 bonus compasses. Then 6 compasses were lost. How many compasses are left?

Answer: → I

There were 173 lanterns in all. 11 lanterns were set aside. The rest were shared equally among 6 Cloud Patrol. How many lanterns did each get?

Answer: → H

Junior Scout earned 2 compasses in each of 6 rounds, plus 75 bonus compasses. Then 6 compasses were lost. How many compasses are left?

Answer: → N

There were 85 sky maps in all. 11 sky maps were set aside. The rest were shared equally among 2 Cloud Patrol. How many sky maps did each get?

Answer: → A

Junior Scout earned 3 lanterns in each of 4 rounds, plus 4 bonus lanterns. Then 10 lanterns were lost. How many lanterns are left?

Answer: → G

Scratch space:

CLUE 3

Bar model word problems

The sky radar readout only shows rounded altitude numbers for flying gliders.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

S **D** **R** .

17 109 9 9 63 9 101 102 71 9

Junior Scout shares 34 compasses equally among 2 teams. How many compasses does each team get?

draw a bar model

Answer: → **S**

Junior Scout has 202 lanterns, packed 2 to a bag. How many bags can be filled?

draw a bar model

Answer: → **P**

Junior Scout has 189 glider straps, packed 3 to a bag. How many bags can be filled?

draw a bar model

Answer: → **Z**

There were 95 compasses in all. 24 compasses were used. How many compasses are left?

draw a bar model

Answer: → **W**

Junior Scout used $\frac{2}{3}$ of the sky maps on the first day. The other 34 sky maps were used the next day. How many sky maps were there in all?

draw a bar model

Answer: → **O**

One group collected 1 lanterns and another group collected 8 lanterns. How many lanterns in all?

draw a bar model

Answer: → **E**

Junior Scout shares 218 lanterns equally among 2 teams. How many lanterns does each team get?

draw a bar model

Answer: → **N**

CLUE 4 Place value

You inspect the digits etched into the tent lock code to find a place value pattern.

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

C																		
30	100	7000	400	50	90	7000	200	4000	80	2000	300	800	7000	4000	300	70		
900	200	100	80	6000	200	80	600	2000	700	600	700	80	600	900	400	200	200	7000

What is the value of the 3 in 637? → **C**

What is the value of the 2 in 240? → **O**

What is the value of the 7 in 7,019? → **R**

What is the value of the 8 in 835? → **I**

What is the value of the 1 in 182? → **U**

What is the value of the 9 in 941? → **F**

What is the value of the 6 in 608? → **T**

What is the value of the 5 in 8,256? → **Y**

What is the value of the 9 in 4,390? → **B**

What is the value of the 4 in 94,975? → **W**

What is the value of the 6 in 6,827? → **D**

What is the value of the 2 in 92,946? → **H**

What is the value of the 7 in 740? → **E**

What is the value of the 7 in 274? → **S**

What is the value of the 3 in 314? → **A**

What is the value of the 4 in 470? → **L**

What is the value of the 8 in 5,685? → **N**

Scratch space:

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

You divide the stray footprints into equal groups across the search grid.

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:

$8 \div 4 = \boxed{}$

$55 \div 11 = \boxed{}$

$32 \div 4 = \boxed{}$

$121 \div 11 = \boxed{}$

$28 \div 4 = \boxed{}$

$60 \div 6 = \boxed{}$

$72 \div 8 = \boxed{}$

$24 \div 6 = \boxed{}$

$72 \div 12 = \boxed{}$

$27 \div 9 = \boxed{}$

$3 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain activated a compass ring, then threw a smoke bomb.
2. The villain blew a wind whistle, then fired a flare gun.
3. The villain soared down on glider wings, then shot a rope launcher.
4. The villain soared down on glider wings, then threw a smoke bomb.
5. The villain swung in on a grappling hook, then fired a flare gun.
6. The villain soared down on glider wings, then flashed a signal mirror.
7. The villain activated a compass ring, then shot a rope launcher.
8. The villain activated a compass ring, then fired a flare gun.
9. The villain scanned the desk with a map scanner, then threw a smoke bomb.
10. The villain scanned the desk with a map scanner, then flashed a beacon.
11. The villain blew a wind whistle, then flashed a beacon.
12. The villain swung in on a grappling hook, then flashed a signal mirror.

Answer Key

The Sky Pirate Compass Caper

Culprit: Orville

Grappling Hook · Signal Mirror · Right Handed · Curly Brown · Sneeze Powder

Trail: Start 21 → Clue 1 19 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE RAIDERS DID NOT USE A ROPE LAUNCHER"

Round 675 to the nearest hundred = 700 (T) · Round 173 to the nearest hundred = 200 (I) · Round 8,997 to the nearest thousand = 9000 (R) · Round 70 to the nearest ten = 70 (D) · Round 50 to the nearest ten = 50 (O) · Round 91 to the nearest ten = 90 (U) · Round 133 to the nearest ten = 130 (P) · Round 2,884 to the nearest thousand = 3000 (A) · Round 368 to the nearest ten = 370 (E) · Round 1,694 to the nearest hundred = 1700 (L) · Round 2,013 to the nearest thousand = 2000 (S) · Round 227 to the nearest ten = 230 (C) · Round 2,871 to the nearest hundred = 2900 (N) · Round 432 to the nearest ten = 430 (H)

Clue 2 (Multi-step word problems): "RIGHT HANDED"

Junior Scout earned 7 climbing ropes in each of 4 rounds, plus 32 bonus climbing ropes. Then 2 climbing ropes were lost. How many climbing ropes are left? = 58 (R) · Junior Scout collected 65 climbing ropes in the morning and 259 climbing ropes in the afternoon, then split them equally among 6 Cloud Patrol. How many climbing ropes did each get? = 54 (T) · Junior Scout earned 2 compasses in each of 6 rounds, plus 24 bonus compasses. Then 6 compasses were lost. How many compasses are left? = 30 (I) · There were 173 lanterns in all. 11 lanterns were set aside. The rest were shared equally among 6 Cloud Patrol. How many lanterns did each get? = 27 (H) · Junior Scout earned 2 compasses in each of 6 rounds, plus 75 bonus compasses. Then 6 compasses were lost. How many compasses are left? = 81 (N) · There were 85 sky maps in all. 11 sky maps were set aside. The rest were shared equally among 2 Cloud Patrol. How many sky maps did each get? = 37 (A) · Junior Scout earned 3 lanterns in each of 4 rounds, plus 4 bonus lanterns. Then 10 lanterns were lost. How many lanterns are left? = 6 (G)

Clue 3 (Bar model word problems): "SNEEZE POWDER"

Junior Scout shares 34 compasses equally among 2 teams. How many compasses does each team get? = 17 (S) · Junior Scout has 202 lanterns, packed 2 to a bag. How many bags can be filled? = 101 (P) · Junior Scout has 189 glider straps, packed 3 to a bag. How many bags can be filled? = 63 (Z) · There were 95 compasses in all. 24 compasses were used. How many compasses are left? = 71 (W) · Junior Scout used $\frac{2}{3}$ of the sky maps on the first day. The other 34 sky maps were used the next day. How many sky maps were there in all? = 102 (O) · One group collected 1 lanterns and another group collected 8 lanterns. How many lanterns in all? = 9 (E) · Junior Scout shares 218 lanterns equally among 2 teams. How many lanterns does each team get? = 109 (N)

Clue 4 (Place value): "CURLY BROWN HAIR WAS FOUND ON THE TENT FLOOR"

What is the value of the 3 in 637? = 30 (C) · What is the value of the 2 in 240? = 200 (O) · What is the value of the 7 in 7,019? = 7000 (R) · What is the value of the 8 in 835? = 800 (I) · What is the value of the 1 in 182? = 100 (U) · What is the value of the 9 in 941? = 900 (F) · What is the value of the 6 in 608? = 600 (T) · What is the value of the 5 in 8,256? = 50 (Y) · What is the value of the 9 in 4,390? = 90 (B) · What is the value of the 4 in 94,975? = 4000 (W) · What is the value of the 6 in 6,827? = 6000 (D) · What is the value of the 2 in 92,946? = 2000 (H) · What is the value of the 7 in 740? = 700 (E) · What is the value of the 7 in 274? = 70 (S) · What is the value of the 3 in 314? = 300 (A) · What is the value of the 4 in 470? = 400 (L) · What is the value of the 8 in 5,685? = 80 (N)

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

$8 \div 4 = 2$ · $55 \div 11 = 5$ · $32 \div 4 = 8$ · $121 \div 11 = 11$ · $28 \div 4 = 7$ · $60 \div 6 = 10$ · $72 \div 8 = 9$ · $24 \div 6 = 4$ · $72 \div 12 = 6$ · $27 \div 9 = 3$ · $3 \div 3 = 1$