



The Lost Idol of El Dorado

Grade 7 math · Multiplication, Integers, Percentages, Order of operations, Two-step equations · Reading level grades 7-9

Detective: _____ Date: _____

A rival explorer has swiped the Golden Jaguar Idol right out of the excavation camp! The lead cartographer was tied up with vines, leaving only a trail of muddy boot prints and dropped gear. We must analyze the evidence left behind to figure out which member of the expedition turned rogue.

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 shadowy rival is _____

Possible suspects

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

NAME	EXPLORATION SPECIALTY	BACKPACK TOOL	HANDEDNESS	HEADGEAR WORN	PHOBIA
Finn	decoding lens	sample vials	right handed compass use	canvas pith helmet	scared of fruit bats
Leo	climbing ropes	field journal	left handed compass use	canvas pith helmet	allergic to pollen
Jacques	decoding lens	field journal	right handed compass use	bright red bandana	allergic to pollen
Sacagawea	machete tool	pocket flares	left handed compass use	canvas pith helmet	afraid of heights
Mateo	decoding lens	smoke bombs	right handed compass use	canvas pith helmet	afraid of heights
Hudson	climbing ropes	smoke bombs	right handed compass use	canvas pith helmet	scared of fruit bats
Gemma	metal detector	pocket flares	left handed compass use	canvas pith helmet	afraid of heights
Indy	decoding lens	sample vials	right handed compass use	bright red bandana	allergic to pollen
Lara	grappling hook	field journal	right handed compass use	brown leather cap	afraid of heights
Percy	machete tool	tracking radar	left handed compass use	canvas pith helmet	afraid of heights
Freya	metal detector	pocket flares	left handed compass use	brown leather cap	afraid of heights
Isabella	grappling hook	tracking radar	left handed compass use	bright red bandana	afraid of heights
Marco	machete tool	pocket flares	right handed compass use	bright red bandana	allergic to pollen
Elena	decoding lens	sample vials	left handed compass use	brown leather cap	allergic to pollen
Nellie	machete tool	sample vials	right handed compass use	brown leather cap	scared of fruit bats
Amelia	climbing ropes	sample vials	left handed compass use	brown leather cap	afraid of heights
Zelda	metal detector	field journal	left handed compass use	canvas pith helmet	allergic to pollen
Wyatt	machete tool	sample vials	left handed compass use	canvas pith helmet	afraid of heights
Charles	machete tool	sample vials	right handed compass use	bright red bandana	scared of fruit bats
Arthur	machete tool	smoke bombs	left handed compass use	canvas pith helmet	afraid of heights
Cora	decoding lens	sample vials	right handed compass use	canvas pith helmet	afraid of heights

CLUE 1

Multiplication facts (1-12)

To calculate the grid coordinates of the lost temple's entrance, we need to multiply the number of columns in the ancient relief carvings.

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

T			T						T											T						
32	77	42	32	20	22	28	42	32	2	4	42	27	72	4	32	35	27	42								
27	55	4	6	42	3	4	55	3	27																	

$4 \times 8 = \square \rightarrow \boxed{\text{T}}$

$6 \times 7 = \square \rightarrow \boxed{\text{E}}$

$10 \times 2 = \square \rightarrow \boxed{\text{A}}$

$9 \times 3 = \square \rightarrow \boxed{\text{S}}$

$1 \times 6 = \square \rightarrow \boxed{\text{K}}$

$7 \times 4 = \square \rightarrow \boxed{\text{G}}$

$3 \times 1 = \square \rightarrow \boxed{\text{B}}$

$5 \times 7 = \square \rightarrow \boxed{\text{U}}$

$12 \times 6 = \square \rightarrow \boxed{\text{N}}$

$1 \times 2 = \square \rightarrow \boxed{\text{D}}$

$2 \times 11 = \square \rightarrow \boxed{\text{R}}$

$5 \times 11 = \square \rightarrow \boxed{\text{M}}$

$11 \times 7 = \square \rightarrow \boxed{\text{H}}$

$2 \times 2 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

CLUE 2

The altitude dial in our steam-powered balloon fluctuated wildly, dropping below sea level before rising again as we charted the temperature shifts.

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

A 3x12 grid of boxes. The first row contains the numbers 24, 9, 11, 18, 14, 20, 25, 21, 26, 24, 9, 11, 20, 27, 24, 9, 11. The second row contains the numbers 18, 10, 1, 25, 6, 22, 22, 26, 12, 24, 9, 11, 20, 11, 28, 24. The third row contains the numbers 9, 6, 12, 27. The boxes containing the number 24 in the first row, the box containing 24 in the second row, and the box containing 24 in the second row are highlighted with an orange background and a large orange 'T' in the top-left corner.

$$20 - (-4) = \boxed{} \rightarrow \boxed{\text{T}}$$

$$(-11) + 23 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$(-11) + 25 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$$18 - (-4) = \boxed{} \rightarrow \boxed{\text{S}}$$

$$14 - (-14) = \boxed{} \rightarrow \boxed{\mathbf{F}}$$

$$6 - (-12) = \boxed{} \rightarrow \boxed{\text{C}}$$

$$(-10) + 37 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

$$(-12) + 23 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$(-12) + 18 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$21 - (-4) = \boxed{} \rightarrow \boxed{\text{P}}$$

$$(-4) + 13 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$10 - (-11) = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$$17 - (-9) = \boxed{} \rightarrow \boxed{1}$$

$$1 - (-9) = \boxed{} \rightarrow \boxed{0}$$

$$8 - (-12) = \boxed{} \rightarrow \boxed{\text{L}}$$

$$(-13) + 14 = \boxed{} \rightarrow \boxed{\mathbf{M}}$$

Scratch space:

CLUE 3

Percentages

We analyzed the composition of the mysterious golden idol, calculating what portion of the alloy was pure copper versus ancient brass.

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

T																	
7	44	51	30	38	19	19	28	38	18	49	44	38	30	51	5	51	9
						T	T										
34	44	38	19	51	28	7	7	44	51	44	38	32	44	41	19	38	52

$20\% \text{ of } 35 = \square \rightarrow \boxed{\text{T}}$

$50\% \text{ of } 98 = \square \rightarrow \boxed{\text{S}}$

$10\% \text{ of } 280 = \square \rightarrow \boxed{\text{A}}$

$25\% \text{ of } 204 = \square \rightarrow \boxed{\text{E}}$

$25\% \text{ of } 76 = \square \rightarrow \boxed{\text{L}}$

$50\% \text{ of } 76 = \square \rightarrow \boxed{\text{I}}$

$5\% \text{ of } 640 = \square \rightarrow \boxed{\text{G}}$

$25\% \text{ of } 176 = \square \rightarrow \boxed{\text{H}}$

$50\% \text{ of } 36 = \square \rightarrow \boxed{\text{N}}$

$40\% \text{ of } 130 = \square \rightarrow \boxed{\text{F}}$

$50\% \text{ of } 60 = \square \rightarrow \boxed{\text{V}}$

$50\% \text{ of } 18 = \square \rightarrow \boxed{\text{D}}$

$50\% \text{ of } 68 = \square \rightarrow \boxed{\text{W}}$

$20\% \text{ of } 25 = \square \rightarrow \boxed{\text{R}}$

$50\% \text{ of } 82 = \square \rightarrow \boxed{\text{C}}$

Scratch space:

CLUE 4

Order of operations

Before we could disarm the pressure-plate trap in the treasure room, we had to solve the nested equation carved into the stone lintel.

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

A		A			A											
45	92	45	118	79	45	43	110	78	117	27	27	22	85	99	22	117
	A															
81	45	43	85	22	109	117	78	118	117	27	22	99	11	9		

$12 \times 4 - 3 = \square \rightarrow \boxed{\text{A}}$

$86 + 3 \times 2 = \square \rightarrow \boxed{\text{C}}$

$11 \times 12 - 22 = \square \rightarrow \boxed{\text{P}}$

$10 + 2 \times 6 = \square \rightarrow \boxed{\text{E}}$

$72 + 3 \times 3 = \square \rightarrow \boxed{\text{W}}$

$55 + 7 \times 9 = \square \rightarrow \boxed{\text{N}}$

$12 + 5 \times 3 = \square \rightarrow \boxed{\text{H}}$

$8 + 5 \times 7 = \square \rightarrow \boxed{\text{S}}$

$7 + 2 \times 2 = \square \rightarrow \boxed{\text{U}}$

$12 \times 11 - 23 = \square \rightarrow \boxed{\text{F}}$

$3 + 3 \times 2 = \square \rightarrow \boxed{\text{D}}$

$93 + 6 \times 4 = \square \rightarrow \boxed{\text{T}}$

$10 \times 9 - 11 = \square \rightarrow \boxed{\text{V}}$

$11 \times 11 - 22 = \square \rightarrow \boxed{\text{M}}$

$48 + 5 \times 6 = \square \rightarrow \boxed{\text{I}}$

$10 \times 9 - 5 = \square \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 5**Two-step equations - the last clue**

We need to balance the fuel consumption rate of our expedition buggy to see how many miles remain before we run out of water.

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:

$2x + 8 = 10, x = \boxed{}$

$3x + 8 = 23, x = \boxed{}$

$4x + 3 = 35, x = \boxed{}$

$5x + 11 = 56, x = \boxed{}$

$3x + 1 = 7, x = \boxed{}$

$6x + 3 = 69, x = \boxed{}$

$3x + 7 = 43, x = \boxed{}$

$2x + 1 = 21, x = \boxed{}$

$5x + 8 = 23, x = \boxed{}$

$3x + 8 = 26, x = \boxed{}$

$4x + 10 = 26, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain cleared the dense vines with a machete tool, then lit up the dark cavern using pocket flares.
2. The villain swung across the canyon with a grappling hook, then scooped up glowing mud into sample vials.
3. The villain read the hidden runes with a decoding lens, then escaped in a cloud of thick smoke bombs.
4. The villain scaled the ancient ruins with climbing ropes, then scooped up glowing mud into sample vials.
5. The villain scanned the dirt path with a metal detector, then lit up the dark cavern using pocket flares.
6. The villain scaled the ancient ruins with climbing ropes, then lit up the dark cavern using pocket flares.
7. The villain cleared the dense vines with a machete tool, then scooped up glowing mud into sample vials.
8. The villain cleared the dense vines with a machete tool, then tracked the native wildlife with radar.
9. The villain swung across the canyon with a grappling hook, then lit up the dark cavern using pocket flares.
10. The villain cleared the dense vines with a machete tool, then escaped in a cloud of thick smoke bombs.
11. The villain cleared the dense vines with a machete tool, then sketched a secret route in a field journal.
12. The villain read the hidden runes with a decoding lens, then scooped up glowing mud into sample vials.

Answer Key

The Lost Idol of El Dorado

Culprit: Wyatt

machete tool · sample vials · left handed compass use · canvas pith helmet · afraid of heights

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE TARGET DOES NOT USE SMOKE BOMBS"

$4 \times 8 = 32$ (T) · $6 \times 7 = 42$ (E) · $10 \times 2 = 20$ (A) · $9 \times 3 = 27$ (S) · $1 \times 6 = 6$ (K) · $7 \times 4 = 28$ (G) · $3 \times 1 = 3$ (B) · $5 \times 7 = 35$ (U) · $12 \times 6 = 72$ (N) · $1 \times 2 = 2$ (D) · $2 \times 11 = 22$ (R) · $5 \times 11 = 55$ (M) · $11 \times 7 = 77$ (H) · $2 \times 2 = 4$ (O)

Clue 2 (Integers): "THE CULPRIT HELD THE COMPASS IN THE LEFT HAND"

$20 - (-4) = 24$ (T) · $(-11) + 23 = 12$ (N) · $(-11) + 25 = 14$ (U) · $18 - (-4) = 22$ (S) · $14 - (-14) = 28$ (F) · $6 - (-12) = 18$ (C) · $(-10) + 37 = 27$ (D) · $(-12) + 23 = 11$ (E) · $(-12) + 18 = 6$ (A) · $21 - (-4) = 25$ (P) · $(-4) + 13 = 9$ (H) · $10 - (-11) = 21$ (R) · $17 - (-9) = 26$ (I) · $1 - (-9) = 10$ (O) · $8 - (-12) = 20$ (L) · $(-13) + 14 = 1$ (M)

Clue 3 (Percentages): "THE VILLAIN SHIVERED WHILE AT THE HIGH CLIFF"

20% of 35 = 7 (T) · 50% of 98 = 49 (S) · 10% of 280 = 28 (A) · 25% of 204 = 51 (E) · 25% of 76 = 19 (L) · 50% of 76 = 38 (I) · 5% of 640 = 32 (G) · 25% of 176 = 44 (H) · 50% of 36 = 18 (N) · 40% of 130 = 52 (F) · 50% of 60 = 30 (V) · 50% of 18 = 9 (D) · 50% of 68 = 34 (W) · 20% of 25 = 5 (R) · 50% of 82 = 41 (C)

Clue 4 (Order of operations): "A CANVAS PITH HELMET WAS LEFT IN THE MUD"

$12 \times 4 - 3 = 45$ (A) · $86 + 3 \times 2 = 92$ (C) · $11 \times 12 - 22 = 110$ (P) · $10 + 2 \times 6 = 22$ (E) · $72 + 3 \times 3 = 81$ (W) · $55 + 7 \times 9 = 118$ (N) · $12 + 5 \times 3 = 27$ (H) · $8 + 5 \times 7 = 43$ (S) · $7 + 2 \times 2 = 11$ (U) · $12 \times 11 - 23 = 109$ (F) · $3 + 3 \times 2 = 9$ (D) · $93 + 6 \times 4 = 117$ (T) · $10 \times 9 - 11 = 79$ (V) · $11 \times 11 - 22 = 99$ (M) · $48 + 5 \times 6 = 78$ (I) · $10 \times 9 - 5 = 85$ (L)

Clue 5 (Two-step equations): surviving statement is box 7 → Wyatt

$2x + 8 = 10, x = 1$ · $3x + 8 = 23, x = 5$ · $4x + 3 = 35, x = 8$ · $5x + 11 = 56, x = 9$ · $3x + 1 = 7, x = 2$ · $6x + 3 = 69, x = 11$ · $3x + 7 = 43, x = 12$ · $2x + 1 = 21, x = 10$ · $5x + 8 = 23, x = 3$ · $3x + 8 = 26, x = 6$ · $4x + 10 = 26, x = 4$