



The Mystery of the Missing Golden Horseshoe

Grade 4 math · Rounding, Addition, Subtraction, Multiplication, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the tack room right before the grand horse show and swapped the championship trophy with a wooden dummy!

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 Barn Bandit is _____

Possible suspects

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

NAME	RIDING EVENT	LUCKY GEAR	REIN HOLD	HELMET COLOR	BARN TREAT
Pippa Funnell	Barrel Racing	Golden Ribbon	Right Handed Grip	Black Helmet	Crisp Carrot
Henrik von Eckermann	Trail Riding	Brass Stirrups	Right Handed Grip	Black Helmet	Sweet Apple
Eric Lamaze	Barrel Racing	Golden Ribbon	Left Handed Grip	Blue Helmet	Peppermint Treat
Boyd Martin	Dressage	Brass Stirrups	Left Handed Grip	Black Helmet	Peppermint Treat
Beezie Madden	Barrel Racing	Brass Stirrups	Left Handed Grip	Blue Helmet	Sweet Apple
Nick Skelton	Trail Riding	Silver Spurs	Left Handed Grip	Blue Helmet	Peppermint Treat
Mark Todd	Trick Riding	Velvet Cap	Left Handed Grip	Black Helmet	Crisp Carrot
Luciana Diniz	Barrel Racing	Golden Ribbon	Left Handed Grip	Black Helmet	Crisp Carrot
William Fox Pitt	Barrel Racing	Silver Spurs	Right Handed Grip	Red Helmet	Peppermint Treat
Daniel Deusser	Trick Riding	Silver Spurs	Right Handed Grip	Blue Helmet	Peppermint Treat
Charlotte Dujardin	Trail Riding	Silver Spurs	Right Handed Grip	Blue Helmet	Peppermint Treat
Ingrid Klimke	Dressage	Velvet Cap	Right Handed Grip	Black Helmet	Sweet Apple
Steve Guerdat	Trail Riding	Leather Lasso	Left Handed Grip	Black Helmet	Sweet Apple
Jessica Springsteen	Trick Riding	Velvet Cap	Right Handed Grip	Black Helmet	Crisp Carrot
Marcus Ehning	Trail Riding	Silver Spurs	Right Handed Grip	Black Helmet	Peppermint Treat
Isabell Werth	Trick Riding	Brass Stirrups	Right Handed Grip	Black Helmet	Crisp Carrot
Peder Fredricson	Show Jumping	Silver Spurs	Right Handed Grip	Black Helmet	Crisp Carrot
Kent Farrington	Barrel Racing	Brass Stirrups	Left Handed Grip	Blue Helmet	Crisp Carrot
McLain Ward	Barrel Racing	Brass Stirrups	Right Handed Grip	Red Helmet	Peppermint Treat
Laura Kraut	Show Jumping	Velvet Cap	Right Handed Grip	Red Helmet	Crisp Carrot
Harrie Smolders	Trick Riding	Silver Spurs	Right Handed Grip	Black Helmet	Crisp Carrot

CLUE 1

The digital clock on the paddock board only shows estimated lap times rounded to the nearest ten.

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

Diagram illustrating the numbers and 'T' labels in the boxes:

Row 1: 110 (T), 3000, 20, 30, 2900, 30, 2000, 20, 5000, 110 (T), 2300, 90, 20, 30, 4300, 90, 110 (T).

Row 2: 2900, 30, 20, 230, 200, 1100, 30, 30, 30, 110 (T), 9000, 200, 200, 2900, 2000, 30.

Round 114 to the nearest ten $\rightarrow$ **T**

Round 86 to the nearest ten $\rightarrow$ **0**

Round 1,061 to the nearest hundred $\rightarrow$ **A**

Round 2,254 to the nearest hundred $\rightarrow$ **D**

Round 29 to the nearest ten $\rightarrow$ **S**

Round 2,693 to the nearest thousand → **H**

Round 2,939 to the nearest hundred $\rightarrow$ **U**

Round 18 to the nearest ten $\rightarrow$ **E**

Round 4,310 to the nearest hundred → **N**

Round 9,010 to the nearest thousand $\rightarrow$

Round 4,621 to the nearest thousand $\rightarrow$ **C**

Round 1,948 to the nearest thousand $\rightarrow$ **P**

Round 247 to the nearest hundred $\rightarrow$ **R**

Round 232 to the nearest ten $\rightarrow$ **B**

Scratch space:

CLUE 2 Addition

The stable hand counted the total number of horseshoes collected from both outer barns.

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

T																	
3737	6550	8112	9320	8112	3206	6842	2118	9523	8112	9320	8112	6550	8112	7777	4043		
		T							T								
9523	3206	3737	6550	9195	9320	3206	6640	6550	3737	6550	9195	6842	4043	8112	4043		
6640	9320	3206	5586														

$2246 + 1491 = \square \rightarrow \text{T}$	$1838 + 3748 = \square \rightarrow \text{P}$	$5903 + 3620 = \square \rightarrow \text{W}$
$644 + 1474 = \square \rightarrow \text{S}$	$1238 + 1968 = \square \rightarrow \text{I}$	$4580 + 1970 = \square \rightarrow \text{H}$
$2078 + 1965 = \square \rightarrow \text{D}$	$3923 + 4189 = \square \rightarrow \text{E}$	$5666 + 3529 = \square \rightarrow \text{A}$
$3429 + 3211 = \square \rightarrow \text{G}$	$2936 + 3906 = \square \rightarrow \text{N}$	$5276 + 2501 = \square \rightarrow \text{L}$
$4116 + 5204 = \square \rightarrow \text{R}$		

Scratch space:

CLUE 3
Subtraction

The manager checked how many hay bales remained after feeding the morning herd.

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

A							A						A				A	
8344	5047	7391	3897	1529	3221	5047	8344	7391	7391	2939	8114	8114	8344	3897	5764	8531	8344	1529
6486	2939	6605	4486	8464	2939	4486	8114	8142	8140	6486	5764	2939	2939	7391				

$9575 - 1231 = \square \rightarrow \text{A}$

$9946 - 1415 = \square \rightarrow \text{W}$

$5594 - 2373 = \square \rightarrow \text{P}$

$7882 - 1396 = \square \rightarrow \text{F}$

$10052 - 1910 = \square \rightarrow \text{H}$

$10063 - 4299 = \square \rightarrow \text{L}$

$9531 - 1417 = \square \rightarrow \text{T}$

$8654 - 2049 = \square \rightarrow \text{U}$

$9880 - 2489 = \square \rightarrow \text{R}$

$6347 - 4818 = \square \rightarrow \text{S}$

$10345 - 2205 = \square \rightarrow \text{E}$

$8586 - 122 = \square \rightarrow \text{D}$

$9916 - 4869 = \square \rightarrow \text{C}$

$6588 - 2691 = \square \rightarrow \text{I}$

$8140 - 3654 = \square \rightarrow \text{N}$

$4365 - 1426 = \square \rightarrow \text{O}$

Scratch space:

CLUE 4
Multiplication facts (1-12)

The groom organized identical boxes of horse brushes into equal rows along the shelf.

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

A		A						A										A	
99	4	99	77	6	18	88	99	8	6	56	1	88	16	1	27	33	99	10	
													A						
10	7	21	27	27	1	4	70	11	27	56	1	27	99	8	6				

$11 \times 9 = \square \rightarrow \boxed{\text{A}}$

$1 \times 10 = \square \rightarrow \boxed{\text{S}}$

$8 \times 11 = \square \rightarrow \boxed{\text{L}}$

$7 \times 3 = \square \rightarrow \boxed{\text{O}}$

$1 \times 7 = \square \rightarrow \boxed{\text{P}}$

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

$1 \times 11 = \square \rightarrow \boxed{\text{N}}$

$8 \times 1 = \square \rightarrow \boxed{\text{C}}$

$1 \times 1 = \square \rightarrow \boxed{\text{E}}$

$11 \times 3 = \square \rightarrow \boxed{\text{W}}$

$8 \times 2 = \square \rightarrow \boxed{\text{M}}$

$3 \times 6 = \square \rightarrow \boxed{\text{B}}$

$4 \times 1 = \square \rightarrow \boxed{\text{D}}$

$7 \times 10 = \square \rightarrow \boxed{\text{I}}$

$7 \times 8 = \square \rightarrow \boxed{\text{H}}$

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

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

Scratch space:

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

The team divided the total apples equally among all the stalls in the main barn.

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:

$27 \div 9 = \boxed{}$

$44 \div 11 = \boxed{}$

$12 \div 12 = \boxed{}$

$20 \div 10 = \boxed{}$

$36 \div 6 = \boxed{}$

$30 \div 6 = \boxed{}$

$18 \div 2 = \boxed{}$

$64 \div 8 = \boxed{}$

$110 \div 11 = \boxed{}$

$77 \div 11 = \boxed{}$

$33 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain leaped high over the show fence, then jangled a pair of silver spurs.
2. The villain trotted swiftly down the forest trail, then swung a braided leather lasso.
3. The villain performed wild stunts on horseback, then jangled a pair of silver spurs.
4. The villain zipped tight around the speed barrels, then waved a shiny golden ribbon.
5. The villain leaped high over the show fence, then waved a shiny golden ribbon.
6. The villain zipped tight around the speed barrels, then adjusted a soft velvet cap.
7. The villain performed wild stunts on horseback, then waved a shiny golden ribbon.
8. The villain danced smoothly through the dressage ring, then waved a shiny golden ribbon.
9. The villain danced smoothly through the dressage ring, then jangled a pair of silver spurs.
10. The villain danced smoothly through the dressage ring, then swung a braided leather lasso.
11. The villain zipped tight around the speed barrels, then shined up heavy brass stirrups.
12. The villain performed wild stunts on horseback, then adjusted a soft velvet cap.

Answer Key

The Mystery of the Missing Golden Horseshoe

Culprit: Jessica Springsteen

Trick Riding · Velvet Cap · Right Handed Grip · Black Helmet · Crisp Carrot

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE SUSPECT DOES NOT USE BRASS STIRRUPS"

Round 114 to the nearest ten = 110 (T) · Round 86 to the nearest ten = 90 (O) · Round 1,061 to the nearest hundred = 1100 (A) · Round 2,254 to the nearest hundred = 2300 (D) · Round 29 to the nearest ten = 30 (S) · Round 2,693 to the nearest thousand = 3000 (H) · Round 2,939 to the nearest hundred = 2900 (U) · Round 18 to the nearest ten = 20 (E) · Round 4,310 to the nearest hundred = 4300 (N) · Round 9,010 to the nearest thousand = 9000 (I) · Round 4,621 to the nearest thousand = 5000 (C) · Round 1,948 to the nearest thousand = 2000 (P) · Round 247 to the nearest hundred = 200 (R) · Round 232 to the nearest ten = 230 (B)

Clue 2 (Addition): "THE REINS WERE HELD WITH A RIGHT HANDED GRIP"

$2246 + 1491 = 3737$ (T) · $1838 + 3748 = 5586$ (P) · $5903 + 3620 = 9523$ (W) · $644 + 1474 = 2118$ (S) · $1238 + 1968 = 3206$ (I) · $4580 + 1970 = 6550$ (H) · $2078 + 1965 = 4043$ (D) · $3923 + 4189 = 8112$ (E) · $5666 + 3529 = 9195$ (A) · $3429 + 3211 = 6640$ (G) · $2936 + 3906 = 6842$ (N) · $5276 + 2501 = 7777$ (L) · $4116 + 5204 = 9320$ (R)

Clue 3 (Subtraction): "A CRISP CARROT TAIL WAS FOUND ON THE FLOOR"

$9575 - 1231 = 8344$ (A) · $9946 - 1415 = 8531$ (W) · $5594 - 2373 = 3221$ (P) · $7882 - 1396 = 6486$ (F) · $10052 - 1910 = 8142$ (H) · $10063 - 4299 = 5764$ (L) · $9531 - 1417 = 8114$ (T) · $8654 - 2049 = 6605$ (U) · $9880 - 2489 = 7391$ (R) · $6347 - 4818 = 1529$ (S) · $10345 - 2205 = 8140$ (E) · $8586 - 122 = 8464$ (D) · $9916 - 4869 = 5047$ (C) · $6588 - 2691 = 3897$ (I) · $8140 - 3654 = 4486$ (N) · $4365 - 1426 = 2939$ (O)

Clue 4 (Multiplication facts (1-12)): "A DARK BLACK HELMET WAS SPOTTED IN THE TACK"

$11 \times 9 = 99$ (A) · $1 \times 10 = 10$ (S) · $8 \times 11 = 88$ (L) · $7 \times 3 = 21$ (O) · $1 \times 7 = 7$ (P) · $3 \times 9 = 27$ (T) · $1 \times 11 = 11$ (N) · $8 \times 1 = 8$ (C) · $1 \times 1 = 1$ (E) · $11 \times 3 = 33$ (W) · $8 \times 2 = 16$ (M) · $3 \times 6 = 18$ (B) · $4 \times 1 = 4$ (D) · $7 \times 10 = 70$ (I) · $7 \times 8 = 56$ (H) · $11 \times 7 = 77$ (R) · $6 \times 1 = 6$ (K)

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

$27 \div 9 = 3$ · $44 \div 11 = 4$ · $12 \div 12 = 1$ · $20 \div 10 = 2$ · $36 \div 6 = 6$ · $30 \div 6 = 5$ · $18 \div 2 = 9$ · $64 \div 8 = 8$ · $110 \div 11 = 10$ · $77 \div 11 = 7$ · $33 \div 3 = 11$