



The Great Stable Switcheroo

Grade 6 math · Multiplication, Rounding, Addition, Subtraction, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

A mysterious Rogue Rider has snuck into the sanctuary and switched the championship horses in their stalls! The Head Stablekeeper needs our help to track down the culprit before the morning ride begins.

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 Rider is _____

Possible suspects

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

NAME	RIDING GEAR	HORSE BAIT	HANDEDNESS	MANE STRANDS	SHED FEAR
Dr Fager	Bareback Riding	Oat Cakes	Right-handed whip hold	Golden Palomino strands	Allergic to clover pollen
Black Beauty	Western Saddle	Oat Cakes	Left-handed whip hold	Dark Chestnut strands	Scared by stable owls
Count Fleet	Jumping Harness	Sweet Apples	Left-handed whip hold	Silver Stallion strands	Startled by camera flashes
Omaha	Jumping Harness	Sweet Apples	Left-handed whip hold	Silver Stallion strands	Allergic to clover pollen
Kelso	English Saddle	Peppermint Treats	Right-handed whip hold	Golden Palomino strands	Startled by camera flashes
Seattle Slew	English Saddle	Oat Cakes	Right-handed whip hold	Golden Palomino strands	Scared by stable owls
Seabiscuit	Jumping Harness	Oat Cakes	Left-handed whip hold	Silver Stallion strands	Allergic to clover pollen
Silver	Jumping Harness	Oat Cakes	Right-handed whip hold	Golden Palomino strands	Startled by camera flashes
Trigger	Bareback Riding	Sweet Apples	Left-handed whip hold	Dark Chestnut strands	Scared by stable owls
Man o War	Trick Stirrups	Sweet Apples	Left-handed whip hold	Golden Palomino strands	Startled by camera flashes
Affirmed	Bareback Riding	Peppermint Treats	Right-handed whip hold	Golden Palomino strands	Startled by camera flashes
Whirlaway	Jumping Harness	Alfalfa Bundles	Right-handed whip hold	Silver Stallion strands	Startled by camera flashes
Assault	Western Saddle	Peppermint Treats	Right-handed whip hold	Silver Stallion strands	Allergic to clover pollen
Sir Barton	Jumping Harness	Peppermint Treats	Left-handed whip hold	Golden Palomino strands	Scared by stable owls
Cigar	Jumping Harness	Peppermint Treats	Left-handed whip hold	Dark Chestnut strands	Startled by camera flashes
Red Rum	Western Saddle	Peppermint Treats	Right-handed whip hold	Dark Chestnut strands	Startled by camera flashes
War Admiral	Bareback Riding	Oat Cakes	Right-handed whip hold	Golden Palomino strands	Scared by stable owls
Citation	Western Saddle	Sweet Apples	Right-handed whip hold	Golden Palomino strands	Startled by camera flashes
Secretariat	Trick Stirrups	Alfalfa Bundles	Right-handed whip hold	Golden Palomino strands	Startled by camera flashes
Phar Lap	Trick Stirrups	Sweet Apples	Right-handed whip hold	Golden Palomino strands	Scared by stable owls
Pegasus	Trick Stirrups	Alfalfa Bundles	Right-handed whip hold	Dark Chestnut strands	Startled by camera flashes

Multiplication facts (1-12)

We search the feeding stalls. There are multiple rows of horse treat boxes. If we multiply the rows by the boxes in each row, we will unlock the first clue.

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

The grid contains the following numbers and markers:

T																			T
11	30	44	90	40	3	21	44	90	2	15	44	90	15	2	15	6	40	11	
21	48	44	14	88	72	14	88	72	14	8	21	6	15	88	44	48			

$$1 \times 11 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$9 \times 10 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$7 \times 3 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$7 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$12 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{S}}$

$4 \times 11 = \boxed{} \rightarrow \mathbf{E}$

$3 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{D}}$

$5 \times 8 = \boxed{} \rightarrow \boxed{0}$

$3 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$8 \times 1 = \boxed{} \rightarrow \mathbf{B}$

$$3 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{N}}$$

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

$$2 \times 1 = \boxed{} \rightarrow \boxed{1}$$

$3 \times 10 = \square \rightarrow \mathbf{H}$

$8 \times 9 = \square \rightarrow \mathbf{F}$

Scratch space:

CLUE 2

We find a scale used for weighing grain sacks, but the dial is dusty. We must round the weight of the sack to the nearest ten to read the next clue.

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

Diagram illustrating a sequence of numbers (9000, 170, 900, 2000, 2300, 2000, 290, 50, 30, 2900, 30, 900, 90, 70, 1300, 2900) arranged in two rows. The first row shows the sequence starting with 9000, followed by 170, 900, 2000, 2300, 2000, 290, 50, 30, 2900, 30, 900, 90, 70, 1300, and 2900. The second row shows the sequence starting with 230, followed by 9000, 170, 50, 2300, 1700, 500, 2900, 9000, 2900, 170, 50, 2300, 2000, 2900, 30, 170, 9000, and 2300. The number 9000 is highlighted in orange in both rows, indicating its significance in the context of the problem.

Round 8,683 to the nearest thousand $\rightarrow$ **R**

Round 1,301 to the nearest hundred $\rightarrow$ **V**

Round 526 to the nearest hundred $\rightarrow$ **W**

Round 2,862 to the nearest hundred → **E**

Round 1,723 to the nearest hundred $\rightarrow$ **S**

Round 852 to the nearest hundred → **G**

Round 89 to the nearest ten $\rightarrow$ **L**

Round 2,332 to the nearest hundred → **T**

Round 174 to the nearest ten $\rightarrow$

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

Round 31 to the nearest ten → **D**

Round 73 to the nearest ten $\rightarrow$

Round 51 to the nearest ten → **N**

Round 286 to the nearest ten → **A**

Round 2,472 to the nearest thousand → **H**

Scratch space:

CLUE 3 Addition

The horseshoes are scattered in the barn yard. We must add up all the steel shoes we find in the three paddocks to put together the next clue.

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

T																	
2124	7462	3117	7698	9735	7698	7182	3117	8145	2124	7462	6754	2405	3607	5093	8969	8442	

T																	
2124	7462	3117	3607	4036	4467	7698	7462	6754	7262	4536	8145	4467	8442	3117	5093	4467	7698

$1363 + 761 = \square \rightarrow$ T	$2070 + 1537 = \square \rightarrow$ F	$1582 + 2885 = \square \rightarrow$ A
$3497 + 5472 = \square \rightarrow$ O	$2647 + 5795 = \square \rightarrow$ M	$2471 + 4283 = \square \rightarrow$ I
$1448 + 957 = \square \rightarrow$ D	$954 + 2163 = \square \rightarrow$ E	$1547 + 3546 = \square \rightarrow$ R
$3864 + 3398 = \square \rightarrow$ N	$2049 + 2487 = \square \rightarrow$ G	$2430 + 1606 = \square \rightarrow$ L
$5035 + 3110 = \square \rightarrow$ C	$3621 + 4077 = \square \rightarrow$ S	$5814 + 3921 = \square \rightarrow$ U
$2779 + 4683 = \square \rightarrow$ H	$3568 + 3614 = \square \rightarrow$ P	

Scratch space:

CLUE 4 Subtraction

The rogue rider emptied some of the water buckets. If we subtract the remaining water from the full tank size, the difference reveals a clue.

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

W													
2247	1131	3605	2153	7172	2540	5244	1703	2153	1459	5244	1131	2540	
3626	1835	1459	2153	5591	6646	2540	2153	4683	1275	7058	1835	2540	5244
1703	1835	1275	1131										

3761 - 1514 = → W	9298 - 4197 = → H	8463 - 1817 = → I
2839 - 686 = → O	9791 - 2619 = → U	4296 - 691 = → F
10899 - 3841 = → R	7516 - 2272 = → D	7885 - 4259 = → P
4908 - 3073 = → A	5872 - 3332 = → N	5789 - 4658 = → E
2141 - 866 = → T	3890 - 2431 = → L	5210 - 527 = → S
5365 - 3662 = → G	7343 - 1752 = → M	

Scratch space:

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

We need to split a bundle of sweet carrots equally among the colts. Dividing the carrots evenly tells us which way the suspect fled.

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:

$77 \div 7 = \boxed{}$

$27 \div 3 = \boxed{}$

$40 \div 8 = \boxed{}$

$6 \div 6 = \boxed{}$

$28 \div 4 = \boxed{}$

$72 \div 12 = \boxed{}$

$132 \div 11 = \boxed{}$

$16 \div 8 = \boxed{}$

$50 \div 5 = \boxed{}$

$16 \div 2 = \boxed{}$

$6 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain rides off bareback, then bribes the ponies with sweet apples.
2. The villain clears fences with a jumping harness, then quiets the horses with peppermint treats.
3. The villain saddles up with a western saddle, then shares a bale of alfalfa bundles.
4. The villain saddles up with a western saddle, then bribes the ponies with sweet apples.
5. The villain rides off bareback, then quiets the horses with peppermint treats.
6. The villain mounts with an english saddle, then bribes the ponies with sweet apples.
7. The villain saddles up with a western saddle, then feeds them homemade oat cakes.
8. The villain leaps using trick stirrups, then bribes the ponies with sweet apples.
9. The villain clears fences with a jumping harness, then feeds them homemade oat cakes.
10. The villain leaps using trick stirrups, then quiets the horses with peppermint treats.
11. The villain mounts with an english saddle, then quiets the horses with peppermint treats.
12. The villain rides off bareback, then coaxes the herd with molasses drops.

Answer Key

The Great Stable Switcheroo

Culprit: Citation

Western Saddle · Sweet Apples · Right-handed whip hold · Golden Palomino strands · Startled by camera flashes

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

Clue 1 (Multiplication facts (1-12)): "THE ROGUE RIDER DID NOT USE ALFALFA BUNDLES"

$1 \times 11 = 11$ (T) · $9 \times 10 = 90$ (R) · $7 \times 3 = 21$ (U) · $7 \times 2 = 14$ (A) · $12 \times 4 = 48$ (S) · $4 \times 11 = 44$ (E) · $3 \times 5 = 15$ (D) · $5 \times 8 = 40$ (O) · $3 \times 1 = 3$ (G) · $8 \times 1 = 8$ (B) · $3 \times 2 = 6$ (N) · $11 \times 8 = 88$ (L) · $2 \times 1 = 2$ (I) · $3 \times 10 = 30$ (H) · $8 \times 9 = 72$ (F)

Clue 2 (Rounding): "RIGHT HANDED GLOVE PRINTS WERE IN THE DIRT"

Round 8,683 to the nearest thousand = 9000 (R) · Round 1,301 to the nearest hundred = 1300 (V) · Round 526 to the nearest hundred = 500 (W) · Round 2,862 to the nearest hundred = 2900 (E) · Round 1,723 to the nearest hundred = 1700 (S) · Round 852 to the nearest hundred = 900 (G) · Round 89 to the nearest ten = 90 (L) · Round 2,332 to the nearest hundred = 2300 (T) · Round 174 to the nearest ten = 170 (I) · Round 232 to the nearest ten = 230 (P) · Round 31 to the nearest ten = 30 (D) · Round 73 to the nearest ten = 70 (O) · Round 51 to the nearest ten = 50 (N) · Round 286 to the nearest ten = 290 (A) · Round 2,472 to the nearest thousand = 2000 (H)

Clue 3 (Addition): "THE SUSPECT HID FROM THE FLASHING CAMERAS"

$1363 + 761 = 2124$ (T) · $2070 + 1537 = 3607$ (F) · $1582 + 2885 = 4467$ (A) · $3497 + 5472 = 8969$ (O) · $2647 + 5795 = 8442$ (M) · $2471 + 4283 = 6754$ (I) · $1448 + 957 = 2405$ (D) · $954 + 2163 = 3117$ (E) · $1547 + 3546 = 5093$ (R) · $3864 + 3398 = 7262$ (N) · $2049 + 2487 = 4536$ (G) · $2430 + 1606 = 4036$ (L) · $5035 + 3110 = 8145$ (C) · $3621 + 4077 = 7698$ (S) · $5814 + 3921 = 9735$ (U) · $2779 + 4683 = 7462$ (H) · $3568 + 3614 = 7182$ (P)

Clue 4 (Subtraction): "WE FOUND GOLDEN PALOMINO STRANDS ON THE GATE"

$3761 - 1514 = 2247$ (W) · $9298 - 4197 = 5101$ (H) · $8463 - 1817 = 6646$ (I) · $2839 - 686 = 2153$ (O) · $9791 - 2619 = 7172$ (U) · $4296 - 691 = 3605$ (F) · $10899 - 3841 = 7058$ (R) · $7516 - 2272 = 5244$ (D) · $7885 - 4259 = 3626$ (P) · $4908 - 3073 = 1835$ (A) · $5872 - 3332 = 2540$ (N) · $5789 - 4658 = 1131$ (E) · $2141 - 866 = 1275$ (T) · $3890 - 2431 = 1459$ (L) · $5210 - 527 = 4683$ (S) · $5365 - 3662 = 1703$ (G) · $7343 - 1752 = 5591$ (M)

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

$77 \div 7 = 11$ · $27 \div 3 = 9$ · $40 \div 8 = 5$ · $6 \div 6 = 1$ · $28 \div 4 = 7$ · $72 \div 12 = 6$ · $132 \div 11 = 12$ · $16 \div 8 = 2$ · $50 \div 5 = 10$ · $16 \div 2 = 8$ · $6 \div 2 = 3$