The Midnight Stables Mystery

Grade 6 math · Fractions of a number, Word problems, Multi-step word problems, Multiplication · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone unlatched the pasture gates at Whispering Willow Stables after dusk and let the prize horses wander off. Solve the clues to identify the sneaky culprit!

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 The Phantom Rider is _____

Possible suspects

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

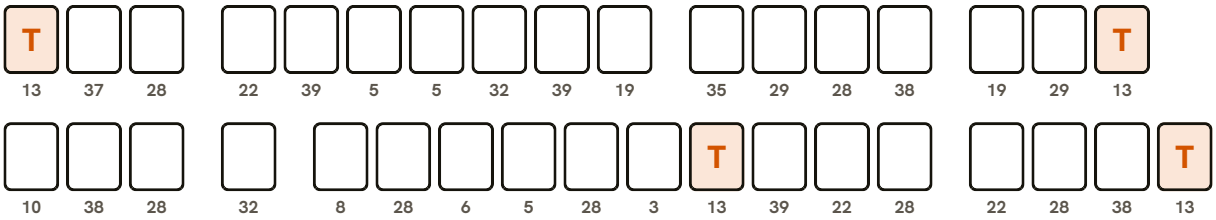
NAME	RIDING STYLE	TRAIL GEAR	REIN GRIP	MANE TRIM	FAVORITE TREAT
Clara Oaks	Show Jumping	Reflective Vest	Right Handed Grip	Braided Mane	Peppermint Squares
Dakota Meadows	Cross Country	Silver Saddle	Right Handed Grip	Flowing Mane	Crunchy Carrots
Fiona Trotter	Cross Country	Silver Saddle	Right Handed Grip	Roached Mane	Crisp Red Apples
Quinn Reins	Dressage	Leather Saddlebag	Right Handed Grip	Braided Mane	Crisp Red Apples
Xena Corral	Dressage	Silver Saddle	Left Handed Grip	Roached Mane	Crisp Red Apples
Tess Groom	Cross Country	Braided Reins	Left Handed Grip	Flowing Mane	Crisp Red Apples
Uriah Track	Show Jumping	Leather Saddlebag	Left Handed Grip	Flowing Mane	Crisp Red Apples
Barnaby Ridge	Dressage	Silver Saddle	Left Handed Grip	Braided Mane	Crisp Red Apples
Jasper Canter	Western Pleasure	Golden Stirrups	Left Handed Grip	Braided Mane	Peppermint Squares
Gideon Saddle	Cross Country	Leather Saddlebag	Left Handed Grip	Roached Mane	Crisp Red Apples
Maya Colt	Show Jumping	Reflective Vest	Right Handed Grip	Flowing Mane	Peppermint Squares
Leo Mare	Vaulting	Braided Reins	Left Handed Grip	Braided Mane	Crisp Red Apples
Rosie Stirrup	Western Pleasure	Golden Stirrups	Left Handed Grip	Braided Mane	Crunchy Carrots
Zane Rider	Western Pleasure	Silver Saddle	Left Handed Grip	Roached Mane	Crisp Red Apples
Olivia Stable	Vaulting	Reflective Vest	Left Handed Grip	Roached Mane	Crisp Red Apples
Sam Halter	Western Pleasure	Leather Saddlebag	Left Handed Grip	Roached Mane	Peppermint Squares
Violet Lasso	Western Pleasure	Golden Stirrups	Right Handed Grip	Braided Mane	Crunchy Carrots
Nico Stallion	Western Pleasure	Golden Stirrups	Left Handed Grip	Flowing Mane	Crisp Red Apples
Kira Gallop	Show Jumping	Silver Saddle	Left Handed Grip	Roached Mane	Crisp Red Apples
Parker Mustang	Show Jumping	Silver Saddle	Right Handed Grip	Roached Mane	Crunchy Carrots
Wyatt Harness	Show Jumping	Leather Saddlebag	Left Handed Grip	Flowing Mane	Crunchy Carrots

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CLUE 1 Fractions of a number

> The stable manager tallied up the disturbed hay bales and horseshoe nails around the main barn to gather the first clue.

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



1/4 of 52 = ☐ → T	1/6 of 174 = ☐ → O	5/10 of 12 = ☐ → F
1/3 of 15 = ☐ → L	2/8 of 76 = ☐ → N	4/6 of 48 = ☐ → A
1/3 of 30 = ☐ → U	3/10 of 130 = ☐ → I	4/8 of 76 = ☐ → S
1/10 of 80 = ☐ → R	2/10 of 15 = ☐ → C	1/3 of 66 = ☐ → V
2/8 of 148 = ☐ → H	1/3 of 84 = ☐ → E	2/6 of 105 = ☐ → D

Scratch space:

CLUE 2 Word problems

Only a portion of the oats in the feeding bins were eaten before the culprit fled down the dark trail.

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

A witness saw the villain was

L							D		D	G	R	I	P
	22	48	44	46	58	14		22					

.

There were 37 grooming brushes. 2 were used up. How many grooming brushes are left?

Answer: ☐ → L

Stable Hand lined up 8 rows of 6 oat buckets. How many oat buckets in all?

Answer: ☐ → F

Stable Hand lined up 2 rows of 7 oat buckets. How many oat buckets in all?

Answer: ☐ → N

Stable Hand found 39 sugar cubes yesterday and 5 more today. How many sugar cubes in all?

Answer: ☐ → T

Stable Hand lined up 11 rows of 2 riding helmets. How many riding helmets in all?

Answer: ☐ → E

Stable Hand found 12 leather straps yesterday and 34 more today. How many leather straps in all?

Answer: ☐ → H

There were 83 sugar cubes. 25 were used up. How many sugar cubes are left?

Answer: ☐ → A

Scratch space:

CLUE 3 Multi-step word problems

> After searching the equipment shed and tallying the extra bridles, the detective pieced together a multi-step evidence trail.

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

Someone scared the villain off with

C								A			L			.
48	72	32	18	40	72	11	67		40	40		11	18	

Stable Hand filled 5 boxes with 2 riding helmets each, then found 38 more riding helmets. How many riding helmets are there in all?

Answer: ☐ → C

Stable Hand earned 6 sugar cubes in each of 2 rounds, plus 28 bonus sugar cubes. Then 8 sugar cubes were lost. How many sugar cubes are left?

Answer: ☐ → I

There were 141 oat buckets in all. 33 oat buckets were set aside. The rest were shared equally among 6 Willow Valley Equestrian Club. How many oat buckets did each get?

Answer: ☐ → S

Stable Hand collected 100 leather straps in the morning and 168 leather straps in the afternoon, then split them equally among 4 Willow Valley Equestrian Club. How many leather straps did each get?

Answer: ☐ → D

Stable Hand earned 3 riding helmets in each of 3 rounds, plus 32 bonus riding helmets. Then 1 riding helmets were lost. How many riding helmets are left?

Answer: ☐ → P

Stable Hand collected 34 oat buckets in the morning and 21 oat buckets in the afternoon, then split them equally among 5 Willow Valley Equestrian Club. How many oat buckets did each get?

Answer: ☐ → E

Stable Hand earned 2 oat buckets in each of 5 rounds, plus 71 bonus oat buckets. Then 9 oat buckets were lost. How many oat buckets are left?

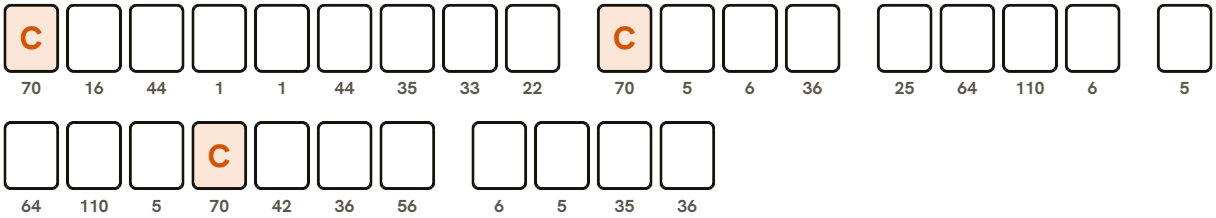
Answer: ☐ → R

Scratch space:

CLUE 4 Multiplication facts (1-12)

> By counting the rows of stalls and calculating the total saddle blankets checked, a clear pattern emerged.

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



7 × 10 = ☐ → C

8 × 8 = ☐ → R

11 × 3 = ☐ → G

1 × 6 = ☐ → M

7 × 6 = ☐ → H

11 × 2 = ☐ → S

5 × 1 = ☐ → A

11 × 4 = ☐ → I

4 × 9 = ☐ → E

10 × 11 = ☐ → O

5 × 5 = ☐ → F

5 × 7 = ☐ → N

1 × 1 = ☐ → P

7 × 8 = ☐ → D

8 × 2 = ☐ → L

Scratch space:

CLUE 5 Fractions of a number - the last clue

A fraction of the muddy horse tracks near the creek led directly to another piece of evidence.

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:

2/4 of 16 = ☐	4/8 of 22 = ☐	2/6 of 27 = ☐	3/6 of 2 = ☐
1/3 of 21 = ☐	1/2 of 10 = ☐	3/8 of 8 = ☐	6/8 of 16 = ☐
1/2 of 12 = ☐	2/6 of 6 = ☐	1/4 of 16 = ☐	

Step 2 - cross out the sentence with each answer:

1. The villain gallops through the arena using western pleasure style, then glows near the tree line in a reflective vest.
2. The villain gallops through the arena using western pleasure style, then carries stolen supplies inside a leather saddlebag.
3. The villain executes precise trots with dressage precision, then glows near the tree line in a reflective vest.
4. The villain performs acrobatics on horseback using vaulting skills, then glistens under the moonlight with golden stirrups.
5. The villain leaps over the pasture gates with show jumping style, then glows near the tree line in a reflective vest.
6. The villain performs acrobatics on horseback using vaulting skills, then glows near the tree line in a reflective vest.
7. The villain leaps over the pasture gates with show jumping style, then steers the runaway horse with braided reins.
8. The villain dashes across mud tracks with cross country speed, then carries stolen supplies inside a leather saddlebag.
9. The villain gallops through the arena using western pleasure style, then shines bright in the dark with a silver saddle.
10. The villain executes precise trots with dressage precision, then shines bright in the dark with a silver saddle.
11. The villain leaps over the pasture gates with show jumping style, then shines bright in the dark with a silver saddle.
12. The villain executes precise trots with dressage precision, then steers the runaway horse with braided reins.

TEACHER / PARENT

Answer Key

The Midnight Stables Mystery

Culprit: Xena Corral

Dressage · Silver Saddle · Left Handed Grip · Roached Mane · Crisp Red Apples

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 9 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT USE A REFLECTIVE VEST"

1/4 of 52 = 13 (T) · 1/6 of 174 = 29 (O) · 5/10 of 12 = 6 (F) · 1/3 of 15 = 5 (L) · 2/8 of 76 = 19 (N) · 4/6 of 48 = 32 (A) · 1/3 of 30 = 10 (U) · 3/10 of 130 = 39 (I) · 4/8 of 76 = 38 (S) · 1/10 of 80 = 8 (R) · 2/10 of 15 = 3 (C) · 1/3 of 66 = 22 (V) · 2/8 of 148 = 37 (H) · 1/3 of 84 = 28 (E) · 2/6 of 105 = 35 (D)

Clue 2 (Word problems): "LEFT HANDED GRIP"

There were 37 grooming brushes. 2 were used up. How many grooming brushes are left? = 35 (L) · Stable Hand lined up 8 rows of 6 oat buckets. How many oat buckets in all? = 48 (F) · Stable Hand lined up 2 rows of 7 oat buckets. How many oat buckets in all? = 14 (N) · Stable Hand found 39 sugar cubes yesterday and 5 more today. How many sugar cubes in all? = 44 (T) · Stable Hand lined up 11 rows of 2 riding helmets. How many riding helmets in all? = 22 (E) · Stable Hand found 12 leather straps yesterday and 34 more today. How many leather straps in all? = 46 (H) · There were 83 sugar cubes. 25 were used up. How many sugar cubes are left? = 58 (A)

Clue 3 (Multi-step word problems): "CRISP RED APPLES"

Stable Hand filled 5 boxes with 2 riding helmets each, then found 38 more riding helmets. How many riding helmets are there in all? = 48 (C) · Stable Hand earned 6 sugar cubes in each of 2 rounds, plus 28 bonus sugar cubes. Then 8 sugar cubes were lost. How many sugar cubes are left? = 32 (I) · There were 141 oat buckets in all. 33 oat buckets were set aside. The rest were shared equally among 6 Willow Valley Equestrian Club. How many oat buckets did each get? = 18 (S) · Stable Hand collected 100 leather straps in the morning and 168 leather straps in the afternoon, then split them equally among 4 Willow Valley Equestrian Club. How many leather straps did each get? = 67 (D) · Stable Hand earned 3 riding helmets in each of 3 rounds, plus 32 bonus riding helmets. Then 1 riding helmets were lost. How many riding helmets are left? = 40 (P) · Stable Hand collected 34 oat buckets in the morning and 21 oat buckets in the afternoon, then split them equally among 5 Willow Valley Equestrian Club. How many oat buckets did each get? = 11 (E) · Stable Hand earned 2 oat buckets in each of 5 rounds, plus 71 bonus oat buckets. Then 9 oat buckets were lost. How many oat buckets are left? = 72 (R)

Clue 4 (Multiplication facts (1-12)): "CLIPPINGS CAME FROM A ROACHED MANE"

7 × 10 = 70 (C) · 8 × 8 = 64 (R) · 11 × 3 = 33 (G) · 1 × 6 = 6 (M) · 7 × 6 = 42 (H) · 11 × 2 = 22 (S) · 5 × 1 = 5 (A) · 11 × 4 = 44 (I) · 4 × 9 = 36 (E) · 10 × 11 = 110 (O) · 5 × 5 = 25 (F) · 5 × 7 = 35 (N) · 1 × 1 = 1 (P) · 7 × 8 = 56 (D) · 8 × 2 = 16 (L)

Clue 5 (Fractions of a number): surviving statement is box 10 → Xena Corral

2/4 of 16 = 8 · 4/8 of 22 = 11 · 2/6 of 27 = 9 · 3/6 of 2 = 1 · 1/3 of 21 = 7 · 1/2 of 10 = 5 · 3/8 of 8 = 3 · 6/8 of 16 = 12 · 1/2 of 12 = 6 · 2/6 of 6 = 2 · 1/4 of 16 = 4