



The Great Porker Spike

Grade 4 math · Addition, Rounding, Subtraction, Multiplication, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Disaster has struck the annual 4H Fair! Just before the final match, the championship pig Barnaby and the golden volleyball trophy vanished. The only clues are muddy sneaker prints on the court and a mysterious trail of pig feed.

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 Pig Heister is _____

Possible suspects

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

NAME	SIGNATURE MOVE	ARENA GEAR	HANDWRITING STYLE	STRAY HAIR	SCARE TACTIC
Gabi Guimaraes	Jump Serve	Trophy Polish	Left Handed Writer	Bristle Gray	Slippery Mud
Digging Debbie	Mud Slide	Ball Pump	Left Handed Writer	Mud Brown	Slippery Mud
Showring Sally	Block Spike	Ribbon Pin	Right Handed Writer	Mud Brown	Slippery Mud
Ted the Farmer	Jump Serve	Gate Latch	Left Handed Writer	Mud Brown	Slippery Mud
Zhu Ting	Block Spike	Gate Latch	Right Handed Writer	Mud Brown	Slippery Mud
Sheilla Castro	Mud Slide	Ball Pump	Left Handed Writer	Bristle Gray	Bright Lights
April Ross	Jump Serve	Ball Pump	Right Handed Writer	Mud Brown	Bright Lights
Barnyard Bess	Block Spike	Whistle Blow	Right Handed Writer	Straw Blonde	Slippery Mud
Jordan Larson	Jump Serve	Whistle Blow	Left Handed Writer	Mud Brown	Squeaky Toys
Karch Kiraly	Feeder Dash	Ball Pump	Left Handed Writer	Straw Blonde	Bright Lights
Spiker Shawn	Mud Slide	Ball Pump	Left Handed Writer	Bristle Gray	Squeaky Toys
Misty May	Jump Serve	Whistle Blow	Right Handed Writer	Bristle Gray	Bright Lights
Kerri Walsh	Jump Serve	Ribbon Pin	Right Handed Writer	Bristle Gray	Slippery Mud
County Fair Chloe	Pig Wrangler	Trophy Polish	Right Handed Writer	Mud Brown	Slippery Mud
Phil Dalhausser	Mud Slide	Gate Latch	Right Handed Writer	Straw Blonde	Squeaky Toys
Farmer John	Mud Slide	Whistle Blow	Left Handed Writer	Bristle Gray	Slippery Mud
Squealer Steve	Mud Slide	Ball Pump	Right Handed Writer	Mud Brown	Slippery Mud
Pen Master Pete	Feeder Dash	Whistle Blow	Right Handed Writer	Bristle Gray	Slippery Mud
Pigtail Pam	Jump Serve	Whistle Blow	Right Handed Writer	Bristle Gray	Slippery Mud
Yuji Nishida	Jump Serve	Trophy Polish	Right Handed Writer	Mud Brown	Slippery Mud
Logan Tom	Pig Wrangler	Ribbon Pin	Right Handed Writer	Straw Blonde	Bright Lights

CLUE 1 Addition

The judge tallies up the extra bags of pig feed and volleyball scorecards in the storage locker.

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

7358 9165 6348 3941 4624 3762 2351 7212 7358 2351 8874 6348 7679 3762 8874 7358 8721 7679 6348

4624 2340 7212 3941 3941 8874 3762 9319 7212 3762

$2636 + 4722 = \boxed{} \rightarrow \boxed{\text{T}}$

$$4500 + 4374 = \boxed{} \rightarrow \boxed{\text{O}}$$

$2208 + 4140 = \boxed{} \rightarrow \boxed{\text{E}}$

$$4725 + 3996 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$6250 + 3069 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$1505 + 846 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$1555 + 785 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$3886 + 3326 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$3511 + 4168 = \boxed{} \rightarrow \boxed{\text{S}}$$

$2534 + 1407 = \boxed{} \rightarrow \mathbf{B}$

$$1552 + 2210 = \boxed{} \rightarrow \boxed{\text{N}}$$

$2930 + 1694 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$$2820 + 6345 = \boxed{} \rightarrow \boxed{\text{H}}$$

Scratch space:

CLUE 2

Rounding

The giant digital arena scoreboard only displays rounded numbers, but it holds a secret clue.

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

R																			
50	370	4300	500	130	500	1300	1700	5000	700	5000	1700	1100	130	700	9000	3000	700	900	130

7000	700	500	370	1700	5000

Round 54 to the nearest ten → **R**

Round 9,035 to the nearest thousand → **S**

Round 1,284 to the nearest hundred → **A**

Round 132 to the nearest ten → **T**

Round 5,455 to the nearest thousand → **D**

Round 4,280 to the nearest hundred → **G**

Round 878 to the nearest hundred → **F**

Round 1,737 to the nearest hundred → **N**

Round 1,056 to the nearest hundred → **O**

Round 6,509 to the nearest thousand → **B**

Round 2,949 to the nearest thousand → **L**

Round 372 to the nearest ten → **I**

Round 687 to the nearest hundred → **E**

Round 455 to the nearest hundred → **H**

Scratch space:

CLUE 3

Subtraction

We find the difference between the total number of trophies and the ones left behind.

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

T 5586	4260	6015	T 5586	4260	4627	6015	5973	3201	3133	4627	6375	6375	6015	8857	4627	6853
8756	6015	T 5586	8413	1489	8857											

$7221 - 1635 = \square \rightarrow \boxed{\text{T}}$

$11816 - 3403 = \square \rightarrow \boxed{\text{M}}$

$5430 - 3941 = \square \rightarrow \boxed{\text{U}}$

$6347 - 3146 = \square \rightarrow \boxed{\text{S}}$

$9203 - 3230 = \square \rightarrow \boxed{\text{F}}$

$8844 - 88 = \square \rightarrow \boxed{\text{W}}$

$4662 - 1529 = \square \rightarrow \boxed{\text{L}}$

$8900 - 43 = \square \rightarrow \boxed{\text{D}}$

$7726 - 1351 = \square \rightarrow \boxed{\text{P}}$

$6534 - 2274 = \square \rightarrow \boxed{\text{H}}$

$5452 - 825 = \square \rightarrow \boxed{\text{I}}$

$7909 - 1056 = \square \rightarrow \boxed{\text{N}}$

$10564 - 4549 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The volleyball team counts the rows of pig pens, with equal numbers of water buckets in each.

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

M																
96	36	25	42	8	27	48	84	108	40	66	8	27	84	132	108	90

20	66	63	49	40	63

$8 \times 12 = \square \rightarrow \boxed{\text{M}}$

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

$4 \times 12 = \square \rightarrow \boxed{\text{W}}$

$11 \times 6 = \square \rightarrow \boxed{\text{I}}$

$4 \times 5 = \square \rightarrow \boxed{\text{P}}$

$11 \times 12 = \square \rightarrow \boxed{\text{T}}$

$7 \times 7 = \square \rightarrow \boxed{\text{C}}$

$3 \times 12 = \square \rightarrow \boxed{\text{U}}$

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

$4 \times 10 = \square \rightarrow \boxed{\text{A}}$

$12 \times 9 = \square \rightarrow \boxed{\text{H}}$

$7 \times 12 = \square \rightarrow \boxed{\text{N}}$

$9 \times 10 = \square \rightarrow \boxed{\text{E}}$

$2 \times 4 = \square \rightarrow \boxed{\text{R}}$

$7 \times 9 = \square \rightarrow \boxed{\text{G}}$

$5 \times 5 = \square \rightarrow \boxed{\text{D}}$

Scratch space:

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

The team shares the remaining championship ribbons equally among the pig grooming stalls.

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:

$77 \div 11 = \square$

$42 \div 7 = \square$

$5 \div 5 = \square$

$6 \div 2 = \square$

$24 \div 2 = \square$

$60 \div 6 = \square$

$50 \div 10 = \square$

$16 \div 2 = \square$

$22 \div 11 = \square$

$121 \div 11 = \square$

$90 \div 10 = \square$

Step 2 - cross out the sentence with each answer:

1. The villain leaps up to block a spike with a giant shield, then latches the main arena gates shut.
2. The villain blasts a powerful jump serve over the barn roof, then pins a blue ribbon onto a confused sheep.
3. The villain leaps up to block a spike with a giant shield, then blows a loud referee whistle to confuse everyone.
4. The villain blasts a powerful jump serve over the barn roof, then shines up the stolen golden trophy.
5. The villain dashes to the feed troughs to cause a distraction, then shines up the stolen golden trophy.
6. The villain slides through the pig pen mud like a pro, then inflates twenty flat volleyballs.
7. The villain wrangles three escapee pigs in record time, then shines up the stolen golden trophy.
8. The villain leaps up to block a spike with a giant shield, then pins a blue ribbon onto a confused sheep.
9. The villain wrangles three escapee pigs in record time, then blows a loud referee whistle to confuse everyone.
10. The villain slides through the pig pen mud like a pro, then shines up the stolen golden trophy.
11. The villain wrangles three escapee pigs in record time, then inflates twenty flat volleyballs.
12. The villain wrangles three escapee pigs in record time, then pins a blue ribbon onto a confused sheep.

Answer Key

The Great Porker Spike

Culprit: Yuji Nishida

Jump Serve · Trophy Polish · Right Handed Writer · Mud Brown · Slippery Mud

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

Clue 1 (Addition): "THE BANDIT DOES NOT USE A RIBBON PIN"

$2636 + 4722 = 7358$ (T) · $4500 + 4374 = 8874$ (O) · $2208 + 4140 = 6348$ (E) · $4725 + 3996 = 8721$ (U) · $6250 + 3069 = 9319$ (P) · $1505 + 846 = 2351$ (D) · $1555 + 785 = 2340$ (R) · $3886 + 3326 = 7212$ (I) · $3511 + 4168 = 7679$ (S) · $2534 + 1407 = 3941$ (B) · $1552 + 2210 = 3762$ (N) · $2930 + 1694 = 4624$ (A) · $2820 + 6345 = 9165$ (H)

Clue 2 (Rounding): "RIGHT HANDED NOTES LEFT BEHIND"

Round 54 to the nearest ten = 50 (R) · Round 9,035 to the nearest thousand = 9000 (S) · Round 1,284 to the nearest hundred = 1300 (A) · Round 132 to the nearest ten = 130 (T) · Round 5,455 to the nearest thousand = 5000 (D) · Round 4,280 to the nearest hundred = 4300 (G) · Round 878 to the nearest hundred = 900 (F) · Round 1,737 to the nearest hundred = 1700 (N) · Round 1,056 to the nearest hundred = 1100 (O) · Round 6,509 to the nearest thousand = 7000 (B) · Round 2,949 to the nearest thousand = 3000 (L) · Round 372 to the nearest ten = 370 (I) · Round 687 to the nearest hundred = 700 (E) · Round 455 to the nearest hundred = 500 (H)

Clue 3 (Subtraction): "THE THIEF SLIPPED IN WET MUD"

$7221 - 1635 = 5586$ (T) · $11816 - 3403 = 8413$ (M) · $5430 - 3941 = 1489$ (U) · $6347 - 3146 = 3201$ (S) · $9203 - 3230 = 5973$ (F) · $8844 - 88 = 8756$ (W) · $4662 - 1529 = 3133$ (L) · $8900 - 43 = 8857$ (D) · $7726 - 1351 = 6375$ (P) · $6534 - 2274 = 4260$ (H) · $5452 - 825 = 4627$ (I) · $7909 - 1056 = 6853$ (N) · $10564 - 4549 = 6015$ (E)

Clue 4 (Multiplication facts (1-12)): "MUD BROWN HAIR ON THE PIG CAGE"

$8 \times 12 = 96$ (M) · $3 \times 9 = 27$ (O) · $4 \times 12 = 48$ (W) · $11 \times 6 = 66$ (I) · $4 \times 5 = 20$ (P) · $11 \times 12 = 132$ (T) · $7 \times 7 = 49$ (C) · $3 \times 12 = 36$ (U) · $7 \times 6 = 42$ (B) · $4 \times 10 = 40$ (A) · $12 \times 9 = 108$ (H) · $7 \times 12 = 84$ (N) · $9 \times 10 = 90$ (E) · $2 \times 4 = 8$ (R) · $7 \times 9 = 63$ (G) · $5 \times 5 = 25$ (D)

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

$77 \div 11 = 7$ · $42 \div 7 = 6$ · $5 \div 5 = 1$ · $6 \div 2 = 3$ · $24 \div 2 = 12$ · $60 \div 6 = 10$ · $50 \div 10 = 5$ · $16 \div 2 = 8$ · $22 \div 11 = 2$ · $121 \div 11 = 11$ · $90 \div 10 = 9$