



The Case of the Mer-Cat Hoops Swindler

Grade 7 math · Fractions of a number, Multi-step word problems, Multiplication, Integers · Reading level grades 7-9

Detective: _____ Date: _____

The Championship Shell was stolen right off the Coral Court rim during the Mer-Cat Basketball Finals! Clues were left behind across the underwater stadium. Help Coach Barnacle analyze the evidence and unmask the 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 Mer-Cat Mischief 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	SPECIAL GEAR	SHOOTING PAW	FUR PATTERN	DISTRACTION
Elena Delle Donne	Whiskered Pass	Glitter Dunk	Right Pawed	Blue Mane	Catnip Flakes
Candace Parker	Hydro Shot	Seafoam Bounce	Left Pawed	Silver Whiskers	Laser Pointers
Breanna Stewart	Coral Slam	Seafoam Bounce	Left Pawed	Silver Whiskers	Catnip Flakes
Maya Moore	Coral Slam	Kelp Sneaker	Left Pawed	Silver Whiskers	Catnip Flakes
Kahleah Copper	Hydro Shot	Seafoam Bounce	Left Pawed	Calico Fur	Catnip Flakes
Jonquel Jones	Coral Slam	Seafoam Bounce	Right Pawed	Silver Whiskers	Squeaky Fish
Tamika Catchings	Coral Slam	Seafoam Bounce	Left Pawed	Blue Mane	Catnip Flakes
Alyssa Thomas	Whiskered Pass	Siren Whistle	Left Pawed	Calico Fur	Squeaky Fish
Sabrina Ionescu	Whiskered Pass	Pearl Net	Right Pawed	Calico Fur	Catnip Flakes
Arike Ogunbowale	Tail Dribble	Glitter Dunk	Left Pawed	Blue Mane	Laser Pointers
Dawn Staley	Tail Dribble	Kelp Sneaker	Right Pawed	Calico Fur	Laser Pointers
Caitlin Clark	Hydro Shot	Pearl Net	Right Pawed	Silver Whiskers	Catnip Flakes
Skylar Diggins	Coral Slam	Kelp Sneaker	Right Pawed	Silver Whiskers	Laser Pointers
Sheryl Swoopes	Bubble Shield	Glitter Dunk	Right Pawed	Blue Mane	Catnip Flakes
Aja Wilson	Coral Slam	Glitter Dunk	Left Pawed	Silver Whiskers	Catnip Flakes
Brittney Griner	Tail Dribble	Seafoam Bounce	Left Pawed	Silver Whiskers	Catnip Flakes
Nneka Ogumike	Tail Dribble	Glitter Dunk	Right Pawed	Silver Whiskers	Catnip Flakes
Kelsey Plum	Tail Dribble	Glitter Dunk	Right Pawed	Calico Fur	Squeaky Fish
Lisa Leslie	Hydro Shot	Siren Whistle	Left Pawed	Silver Whiskers	Catnip Flakes
Jewell Loyd	Hydro Shot	Glitter Dunk	Right Pawed	Blue Mane	Squeaky Fish
Napheesa Collier	Whiskered Pass	Kelp Sneaker	Right Pawed	Silver Whiskers	Squeaky Fish

CLUE 1
Fractions of a number

To narrow down the suspect list we calculated the fraction of team tickets sold in the upper arena

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

T									T								T
39	15	24	7	46	7	44	24	35	39	8	38	24	7	43	38	39	

34	24	18	12	50	24	57	44	7	43	24	18	50	24	12	7	

$3/8 \text{ of } 104 = \square \rightarrow \boxed{\text{T}}$

$3/6 \text{ of } 86 = \square \rightarrow \boxed{\text{N}}$

$2/5 \text{ of } 110 = \square \rightarrow \boxed{\text{P}}$

$1/2 \text{ of } 92 = \square \rightarrow \boxed{\text{U}}$

$1/3 \text{ of } 54 = \square \rightarrow \boxed{\text{A}}$

$3/6 \text{ of } 48 = \square \rightarrow \boxed{\text{E}}$

$1/5 \text{ of } 170 = \square \rightarrow \boxed{\text{W}}$

$1/8 \text{ of } 120 = \square \rightarrow \boxed{\text{H}}$

$2/5 \text{ of } 95 = \square \rightarrow \boxed{\text{O}}$

$1/2 \text{ of } 70 = \square \rightarrow \boxed{\text{C}}$

$2/8 \text{ of } 32 = \square \rightarrow \boxed{\text{D}}$

$6/10 \text{ of } 20 = \square \rightarrow \boxed{\text{R}}$

$6/10 \text{ of } 95 = \square \rightarrow \boxed{\text{L}}$

$4/10 \text{ of } 125 = \square \rightarrow \boxed{\text{K}}$

$2/4 \text{ of } 14 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 2 Multi-step word problems

Analyzing snack bar receipts and tail ribbon sales required a multi step calculation to locate the lost note

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

A witness saw the villain was L D

84 11 81 43 88 49 38 11

There were 712 squeaky fish toys in all. 40 squeaky fish toys were set aside. The rest were shared equally among 8 Tidal Waves. How many squeaky fish toys did each get?

Answer: → **L**

There were 168 glitter basketballs in all. 4 Tidal Waves used 23 glitter basketballs each. The other 2 Tidal Waves shared the rest equally. How many glitter basketballs did each of the other Tidal Waves get?

Answer: → **W**

Coach Barnacle earned 2 glitter basketballs in each of 6 rounds, plus 12 bonus glitter basketballs. Then 13 glitter basketballs were lost. How many glitter basketballs are left?

Answer: → **E**

There were 348 glitter basketballs in all. 4 Tidal Waves used 6 glitter basketballs each. The other 4 Tidal Waves shared the rest equally. How many glitter basketballs did each of the other Tidal Waves get?

Answer: → **F**

Coach Barnacle filled 2 boxes with 9 squeaky fish toys each, then found 25 more squeaky fish toys. How many squeaky fish toys are there in all?

Answer: → **T**

Coach Barnacle filled 5 boxes with 6 squeaky fish toys each, then found 58 more squeaky fish toys. How many squeaky fish toys are there in all?

Answer: → **P**

There were 282 seafoam sponges in all. 37 seafoam sponges were set aside. The rest were shared equally among 5 Tidal Waves. How many seafoam sponges did each get?

Answer: → **A**

Scratch space:

CLUE 3
Multiplication facts (1-12)

We counted the total glitter pearls collected from equal rows of spectator clam shells

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

D				D																
49	25	99	20	49	132	72	8	24	99	55	12	20	72	80	20	32				
																	D			
32	12	84	48	8	28	99	32	45	20	25	132	72	8	49	84	48	24			

$7 \times 7 = \square \rightarrow \text{D}$

$5 \times 5 = \square \rightarrow \text{R}$

$10 \times 8 = \square \rightarrow \text{V}$

$4 \times 2 = \square \rightarrow \text{T}$

$12 \times 11 = \square \rightarrow \text{C}$

$9 \times 11 = \square \rightarrow \text{I}$

$11 \times 5 = \square \rightarrow \text{P}$

$4 \times 7 = \square \rightarrow \text{H}$

$12 \times 2 = \square \rightarrow \text{N}$

$12 \times 1 = \square \rightarrow \text{L}$

$7 \times 12 = \square \rightarrow \text{O}$

$4 \times 5 = \square \rightarrow \text{E}$

$9 \times 8 = \square \rightarrow \text{A}$

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

$4 \times 8 = \square \rightarrow \text{S}$

$5 \times 9 = \square \rightarrow \text{M}$

Scratch space:

CLUE 4 Integers

Checking water temperature changes and depth gauge readings gave us the next set of coordinate clues

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

L						L											
19	24	8	26	29	22	19	5	9	25	7	3	22	29	1	9	25	29

		L	L														
20	9	19	19	8	9	30	25	6	3	9	3	24	24	13			

$9 - (-10) = \boxed{} \rightarrow \boxed{\text{L}}$

$1 - (-2) = \boxed{} \rightarrow \boxed{\text{H}}$

$19 - (-1) = \boxed{} \rightarrow \boxed{\text{F}}$

$27 - (-3) = \boxed{} \rightarrow \boxed{\text{A}}$

$(-3) + 27 = \boxed{} \rightarrow \boxed{\text{O}}$

$2 - (-11) = \boxed{} \rightarrow \boxed{\text{P}}$

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

$17 - (-8) = \boxed{} \rightarrow \boxed{\text{R}}$

$5 - (-4) = \boxed{} \rightarrow \boxed{\text{E}}$

$26 - (-3) = \boxed{} \rightarrow \boxed{\text{S}}$

$(-1) + 23 = \boxed{} \rightarrow \boxed{\text{I}}$

$(-10) + 11 = \boxed{} \rightarrow \boxed{\text{K}}$

$16 - (-10) = \boxed{} \rightarrow \boxed{\text{G}}$

$(-12) + 19 = \boxed{} \rightarrow \boxed{\text{W}}$

$(-8) + 13 = \boxed{} \rightarrow \boxed{\text{V}}$

$(-4) + 12 = \boxed{} \rightarrow \boxed{\text{N}}$

Scratch space:

CLUE 5**Fractions of a number - the last clue**

We figured out what fraction of the stadium lights were dimmed to decode the final message

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:

$2/10 \text{ of } 40 = \boxed{}$

$5/10 \text{ of } 14 = \boxed{}$

$1/2 \text{ of } 18 = \boxed{}$

$3/6 \text{ of } 2 = \boxed{}$

$3/6 \text{ of } 22 = \boxed{}$

$1/6 \text{ of } 36 = \boxed{}$

$3/10 \text{ of } 10 = \boxed{}$

$2/8 \text{ of } 8 = \boxed{}$

$3/6 \text{ of } 8 = \boxed{}$

$1/2 \text{ of } 10 = \boxed{}$

$2/8 \text{ of } 48 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain activates a bubble shield, then uses a seafoam bounce.
2. The villain makes a whiskered pass, then slips on a kelp sneaker.
3. The villain shoots a hydro shot, then slips on a kelp sneaker.
4. The villain dribbles with their tail, then blows a siren whistle.
5. The villain activates a bubble shield, then traps the ball in a pearl net.
6. The villain shoots a hydro shot, then uses a seafoam bounce.
7. The villain dribbles with their tail, then uses a seafoam bounce.
8. The villain executes a coral slam, then delivers a glitter dunk.
9. The villain shoots a hydro shot, then blows a siren whistle.
10. The villain executes a coral slam, then uses a seafoam bounce.
11. The villain dribbles with their tail, then slips on a kelp sneaker.
12. The villain shoots a hydro shot, then delivers a glitter dunk.

Answer Key

The Case of the Mer-Cat Hoops Swindler

Culprit: Breanna Stewart

Coral Slam · Seafoam Bounce · Left Pawed · Silver Whiskers · Catnip Flakes

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE SUSPECT DOES NOT WEAR KELP SNEAKERS"

$\frac{3}{8}$ of 104 = 39 (T) · $\frac{3}{6}$ of 86 = 43 (N) · $\frac{2}{5}$ of 110 = 44 (P) · $\frac{1}{2}$ of 92 = 46 (U) · $\frac{1}{3}$ of 54 = 18 (A) · $\frac{3}{6}$ of 48 = 24 (E) · $\frac{1}{5}$ of 170 = 34 (W) · $\frac{1}{8}$ of 120 = 15 (H) · $\frac{2}{5}$ of 95 = 38 (O) · $\frac{1}{2}$ of 70 = 35 (C) · $\frac{2}{8}$ of 32 = 8 (D) · $\frac{6}{10}$ of 20 = 12 (R) · $\frac{6}{10}$ of 95 = 57 (L) · $\frac{4}{10}$ of 125 = 50 (K) · $\frac{2}{4}$ of 14 = 7 (S)

Clue 2 (Multi-step word problems): "LEFT PAWED"

There were 712 squeaky fish toys in all. 40 squeaky fish toys were set aside. The rest were shared equally among 8 Tidal Waves. How many squeaky fish toys did each get? = 84 (L) · There were 168 glitter basketballs in all. 4 Tidal Waves used 23 glitter basketballs each. The other 2 Tidal Waves shared the rest equally. How many glitter basketballs did each of the other Tidal Waves get? = 38 (W) · Coach Barnacle earned 2 glitter basketballs in each of 6 rounds, plus 12 bonus glitter basketballs. Then 13 glitter basketballs were lost. How many glitter basketballs are left? = 11 (E) · There were 348 glitter basketballs in all. 4 Tidal Waves used 6 glitter basketballs each. The other 4 Tidal Waves shared the rest equally. How many glitter basketballs did each of the other Tidal Waves get? = 81 (F) · Coach Barnacle filled 2 boxes with 9 squeaky fish toys each, then found 25 more squeaky fish toys. How many squeaky fish toys are there in all? = 43 (T) · Coach Barnacle filled 5 boxes with 6 squeaky fish toys each, then found 58 more squeaky fish toys. How many squeaky fish toys are there in all? = 88 (P) · There were 282 seafoam sponges in all. 37 seafoam sponges were set aside. The rest were shared equally among 5 Tidal Waves. How many seafoam sponges did each get? = 49 (A)

Clue 3 (Multiplication facts (1-12)): "DRIED CATNIP LEAVES SLOW THIS MERCAT DOWN"

$7 \times 7 = 49$ (D) · $5 \times 5 = 25$ (R) · $10 \times 8 = 80$ (V) · $4 \times 2 = 8$ (T) · $12 \times 11 = 132$ (C) · $9 \times 11 = 99$ (I) · $11 \times 5 = 55$ (P) · $4 \times 7 = 28$ (H) · $12 \times 2 = 24$ (N) · $12 \times 1 = 12$ (L) · $7 \times 12 = 84$ (O) · $4 \times 5 = 20$ (E) · $9 \times 8 = 72$ (A) · $12 \times 4 = 48$ (W) · $4 \times 8 = 32$ (S) · $5 \times 9 = 45$ (M)

Clue 4 (Integers): "LONG SILVER WHISKERS FELL NEAR THE HOOP"

$9 - (-10) = 19$ (L) · $1 - (-2) = 3$ (H) · $19 - (-1) = 20$ (F) · $27 - (-3) = 30$ (A) · $(-3) + 27 = 24$ (O) · $2 - (-11) = 13$ (P) · $(-6) + 12 = 6$ (T) · $17 - (-8) = 25$ (R) · $5 - (-4) = 9$ (E) · $26 - (-3) = 29$ (S) · $(-1) + 23 = 22$ (I) · $(-10) + 11 = 1$ (K) · $16 - (-10) = 26$ (G) · $(-12) + 19 = 7$ (W) · $(-8) + 13 = 5$ (V) · $(-4) + 12 = 8$ (N)

Clue 5 (Fractions of a number): surviving statement is box 10 → Breanna Stewart

$\frac{2}{10}$ of 40 = 8 · $\frac{5}{10}$ of 14 = 7 · $\frac{1}{2}$ of 18 = 9 · $\frac{3}{6}$ of 2 = 1 · $\frac{3}{6}$ of 22 = 11 · $\frac{1}{6}$ of 36 = 6 · $\frac{3}{10}$ of 10 = 3 · $\frac{2}{8}$ of 8 = 2 · $\frac{3}{6}$ of 8 = 4 · $\frac{1}{2}$ of 10 = 5 · $\frac{2}{8}$ of 48 = 12