



The Diamond Dome Heist

Grade 7 math · Integers, Word problems, Multi-step word problems, Percentages, Two-step equations · Reading level grades 7-9

Detective: _____ Date: _____

The prestigious Diamond Dome has been breached! Just hours before the ultimate game of the season, the legendary Golden Bat went missing from the Hall of Fame lobby. Security footage is static, but a series of athletic clues were left behind across the diamond. As the chief sports detective, it is up to you to decode the evidence, track the field data, and identify the thief before the first pitch is thrown.

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 Championship Thief is _____

Possible suspects

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

NAME	SIGNATURE PITCH	SPECIALIST GEAR	BATTING STANCE	HELMET COLOR	ENVIRONMENTAL WEAKNESS
Mookie Betts	Slider	Pine Tar Bat	Right Handed Stance	Matte Black Helmet	Screaming Fans
Freddie Freeman	Fastball	Pine Tar Bat	Left Handed Stance	Red Helmet	Soggy Turf
Ken Griffey	Knuckleball	Stealth Cleats	Right Handed Stance	Matte Black Helmet	Screaming Fans
Jose Altuve	Spitball	Radar Gun	Left Handed Stance	Matte Black Helmet	Soggy Turf
Aaron Judge	Slider	Scuffed Ball	Right Handed Stance	Red Helmet	Soggy Turf
Francisco Lindor	Curveball	Stealth Cleats	Left Handed Stance	Red Helmet	Sunlight Glare
Shohei Ohtani	Slider	Weighted Gloves	Right Handed Stance	Red Helmet	Soggy Turf
Gerrit Cole	Fastball	Pine Tar Bat	Left Handed Stance	Matte Black Helmet	Soggy Turf
Derek Jeter	Knuckleball	Radar Gun	Right Handed Stance	Matte Black Helmet	Soggy Turf
Cal Ripken	Curveball	Stealth Cleats	Right Handed Stance	Matte Black Helmet	Soggy Turf
Justin Verlander	Knuckleball	Pine Tar Bat	Left Handed Stance	Matte Black Helmet	Soggy Turf
Jackie Robinson	Knuckleball	Pine Tar Bat	Left Handed Stance	Matte Black Helmet	Sunlight Glare
Max Scherzer	Slider	Stealth Cleats	Left Handed Stance	Red Helmet	Soggy Turf
Bryce Harper	Fastball	Weighted Gloves	Left Handed Stance	Blue Helmet	Sunlight Glare
Ronald Acuna	Curveball	Pine Tar Bat	Left Handed Stance	Red Helmet	Screaming Fans
Nolan Ryan	Fastball	Radar Gun	Left Handed Stance	Blue Helmet	Screaming Fans
Corey Seager	Spitball	Pine Tar Bat	Left Handed Stance	Matte Black Helmet	Soggy Turf
Fernando Tatis	Curveball	Stealth Cleats	Right Handed Stance	Matte Black Helmet	Screaming Fans
Randy Johnson	Slider	Scuffed Ball	Left Handed Stance	Matte Black Helmet	Soggy Turf
Albert Pujols	Fastball	Radar Gun	Left Handed Stance	Red Helmet	Screaming Fans
Ichiro Suzuki	Spitball	Pine Tar Bat	Right Handed Stance	Blue Helmet	Screaming Fans

CLUE 1 Integers

The stadium's ticket booth calculates daily sales across multiple gate entrances, subtraction of promotional discounts, and addition of souvenir bundles to trace the thief's entry path.

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

27 22 23 10 19 6 6 16 19 3 11 13 23 9 3 13 27

21 9 23 16 9 29 21 26 26 23 11 25 16 6 6

$$23 - (-4) = \boxed{} \rightarrow \boxed{\text{T}}$$

$$16 - (-6) = \boxed{} \rightarrow \boxed{\text{H}}$$

$$(-9) + 18 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$$13 - (-10) = \boxed{} \rightarrow \boxed{\text{E}}$$

$$(-10) + 35 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$7 - (-6) = \boxed{} \rightarrow \boxed{0}$$

$$8 - (-3) = \boxed{} \rightarrow \boxed{\text{D}}$$

$$(-14) + 30 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$(-2) + 21 = \boxed{} \rightarrow \boxed{} \mid$$

$$(-3) + 13 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$4 - (-2) = \boxed{} \rightarrow \boxed{\text{L}}$$

$$(-1) + 4 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$(-12) + 33 = \boxed{} \rightarrow \boxed{\text{U}}$$

$15 - (-11) = \boxed{} \rightarrow \boxed{\mathbf{F}}$

$$17 - (-12) = \boxed{} \rightarrow \boxed{\text{C}}$$

Scratch space:

CLUE 2

Word problems

We analyze the concession stand logs, calculating how many boxes of hotdogs and bags of peanuts were purchased during the seventh-inning stretch to find the suspicious bystander.

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
S

C

94 80 39 9 89 33 85 80 9 33 85 80

There were 127 scorecards. 33 were used up. How many scorecards are left?

Answer: → L

There were 112 cleats. 32 were used up. How many cleats are left?

Answer: → E

There were 103 batting gloves. 14 were used up. How many batting gloves are left?

Answer: → H

There were 69 cleats. 30 were used up. How many cleats are left?

Answer: → F

There were 69 scorecards. 36 were used up. How many scorecards are left?

Answer: → A

There were 124 baseballs. 39 were used up. How many baseballs are left?

Answer: → N

The head coach lined up 3 rows of 3 cleats. How many cleats in all?

Answer: → T

Scratch space:

CLUE 3

Multi-step word problems

Looking at the pitch-velocity radar logs, we subtract the below-average pitches from the above-average strikes to find the temperature drops near the stolen trophy case.

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

Someone scared the villain off with S F .

60

58

28

28

56

72

41

70

The head coach filled 3 boxes with 4 foam fingers each, then found 48 more foam fingers. How many foam fingers are there in all?

Answer: → S

The head coach collected 91 batting gloves in the morning and 114 batting gloves in the afternoon, then split them equally among 5 the Mudville Sluggers. How many batting gloves did each get?

Answer: → U

There were 388 foam fingers in all. 2 the Mudville Sluggers used 26 foam fingers each. The other 6 the Mudville Sluggers shared the rest equally. How many foam fingers did each of the other the Mudville Sluggers get?

Answer: → Y

The head coach earned 7 baseballs in each of 6 rounds, plus 26 bonus baseballs. Then 10 baseballs were lost. How many baseballs are left?

Answer: → O

There were 230 batting gloves in all. 34 batting gloves were set aside. The rest were shared equally among 7 the Mudville Sluggers. How many batting gloves did each get?

Answer: → G

There were 237 foam fingers in all. 3 the Mudville Sluggers used 31 foam fingers each. The other 2 the Mudville Sluggers shared the rest equally. How many foam fingers did each of the other the Mudville Sluggers get?

Answer: → T

There were 360 baseballs in all. 10 baseballs were set aside. The rest were shared equally among 5 the Mudville Sluggers. How many baseballs did each get?

Answer: → R

Scratch space:

CLUE 4

Percentages

Reviewing the batting average sheets, we determine the exact percentage of successful bunts executed during the rainy night games to narrow down the target.

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

A			A											A	
14	42	1	14	52	28	22	55	1	12	55	60	53	14	32	

A		A							A						A			
14	42	14	38	25	27	38	55	25	14	60	60	22	55	46	1	14	60	55

$50\% \text{ of } 28 = \square \rightarrow \boxed{\text{A}}$

$75\% \text{ of } 56 = \square \rightarrow \boxed{\text{B}}$

$20\% \text{ of } 300 = \square \rightarrow \boxed{\text{T}}$

$20\% \text{ of } 275 = \square \rightarrow \boxed{\text{E}}$

$25\% \text{ of } 212 = \square \rightarrow \boxed{\text{W}}$

$40\% \text{ of } 30 = \square \rightarrow \boxed{\text{M}}$

$5\% \text{ of } 440 = \square \rightarrow \boxed{\text{H}}$

$5\% \text{ of } 920 = \square \rightarrow \boxed{\text{P}}$

$25\% \text{ of } 100 = \square \rightarrow \boxed{\text{D}}$

$10\% \text{ of } 280 = \square \rightarrow \boxed{\text{K}}$

$60\% \text{ of } 45 = \square \rightarrow \boxed{\text{O}}$

$25\% \text{ of } 208 = \square \rightarrow \boxed{\text{C}}$

$5\% \text{ of } 20 = \square \rightarrow \boxed{\text{L}}$

$50\% \text{ of } 76 = \square \rightarrow \boxed{\text{N}}$

$40\% \text{ of } 80 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 5**Two-step equations - the last clue**

To crack the locked stadium vault where the thief hid, we solve for the variable representing the total team runs minus twice the home run count.

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:

$3x + 4 = 13, x = \boxed{}$

$2x + 7 = 29, x = \boxed{}$

$5x + 5 = 25, x = \boxed{}$

$6x + 10 = 46, x = \boxed{}$

$3x + 6 = 30, x = \boxed{}$

$4x + 2 = 6, x = \boxed{}$

$3x + 11 = 41, x = \boxed{}$

$3x + 11 = 47, x = \boxed{}$

$3x + 9 = 30, x = \boxed{}$

$5x + 2 = 12, x = \boxed{}$

$4x + 6 = 26, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain slid a tricky slider, then crept past the security cameras in stealth cleats.
2. The villain tossed a fluttering knuckleball, then crept past the security cameras in stealth cleats.
3. The villain fired a blistering fastball, then cracked open the trophy case with a pine tar bat.
4. The villain threw a greasy spitball, then measured the escape route with a radar gun.
5. The villain fired a blistering fastball, then smashed the locks with weighted gloves.
6. The villain tossed a fluttering knuckleball, then smashed the locks with weighted gloves.
7. The villain slid a tricky slider, then cracked open the trophy case with a pine tar bat.
8. The villain snapped a sharp curveball, then smashed the locks with weighted gloves.
9. The villain threw a greasy spitball, then cracked open the trophy case with a pine tar bat.
10. The villain snapped a sharp curveball, then distracted the guards with a scuffed ball.
11. The villain tossed a fluttering knuckleball, then cracked open the trophy case with a pine tar bat.
12. The villain threw a greasy spitball, then smashed the locks with weighted gloves.

Answer Key

The Diamond Dome Heist

Culprit: Corey Seager

Spitball · Pine Tar Bat · Left Handed Stance · Matte Black Helmet · Soggy Turf

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE VILLAIN DOES NOT USE A SCUFFED BALL"

$23 - (-4) = 27$ (T) · $16 - (-6) = 22$ (H) · $(-9) + 18 = 9$ (S) · $13 - (-10) = 23$ (E) · $(-10) + 35 = 25$ (B) · $7 - (-6) = 13$ (O) · $8 - (-3) = 11$ (D) · $(-14) + 30 = 16$ (A) · $(-2) + 21 = 19$ (I) · $(-3) + 13 = 10$ (V) · $4 - (-2) = 6$ (L) · $(-1) + 4 = 3$ (N) · $(-12) + 33 = 21$ (U) · $15 - (-11) = 26$ (F) · $17 - (-12) = 29$ (C)

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

There were 127 scorecards. 33 were used up. How many scorecards are left? = 94 (L) · There were 112 cleats. 32 were used up. How many cleats are left? = 80 (E) · There were 103 batting gloves. 14 were used up. How many batting gloves are left? = 89 (H) · There were 69 cleats. 30 were used up. How many cleats are left? = 39 (F) · There were 69 scorecards. 36 were used up. How many scorecards are left? = 33 (A) · There were 124 baseballs. 39 were used up. How many baseballs are left? = 85 (N) · The head coach lined up 3 rows of 3 cleats. How many cleats in all? = 9 (T)

Clue 3 (Multi-step word problems): "SOGGY TURF"

The head coach filled 3 boxes with 4 foam fingers each, then found 48 more foam fingers. How many foam fingers are there in all? = 60 (S) · The head coach collected 91 batting gloves in the morning and 114 batting gloves in the afternoon, then split them equally among 5 the Mudville Sluggers. How many batting gloves did each get? = 41 (U) · There were 388 foam fingers in all. 2 the Mudville Sluggers used 26 foam fingers each. The other 6 the Mudville Sluggers shared the rest equally. How many foam fingers did each of the other the Mudville Sluggers get? = 56 (Y) · The head coach earned 7 baseballs in each of 6 rounds, plus 26 bonus baseballs. Then 10 baseballs were lost. How many baseballs are left? = 58 (O) · There were 230 batting gloves in all. 34 batting gloves were set aside. The rest were shared equally among 7 the Mudville Sluggers. How many batting gloves did each get? = 28 (G) · There were 237 foam fingers in all. 3 the Mudville Sluggers used 31 foam fingers each. The other 2 the Mudville Sluggers shared the rest equally. How many foam fingers did each of the other the Mudville Sluggers get? = 72 (T) · There were 360 baseballs in all. 10 baseballs were set aside. The rest were shared equally among 5 the Mudville Sluggers. How many baseballs did each get? = 70 (R)

Clue 4 (Percentages): "A BLACK HELMET WAS ABANDONED AT THE PLATE"

50% of 28 = 14 (A) · 75% of 56 = 42 (B) · 20% of 300 = 60 (T) · 20% of 275 = 55 (E) · 25% of 212 = 53 (W) · 40% of 30 = 12 (M) · 5% of 440 = 22 (H) · 5% of 920 = 46 (P) · 25% of 100 = 25 (D) · 10% of 280 = 28 (K) · 60% of 45 = 27 (O) · 25% of 208 = 52 (C) · 5% of 20 = 1 (L) · 50% of 76 = 38 (N) · 40% of 80 = 32 (S)

Clue 5 (Two-step equations): surviving statement is box 9 → Corey Seager

$3x + 4 = 13$, $x = 3$ · $2x + 7 = 29$, $x = 11$ · $5x + 5 = 25$, $x = 4$ · $6x + 10 = 46$, $x = 6$ · $3x + 6 = 30$, $x = 8$ · $4x + 2 = 6$, $x = 1$ · $3x + 11 = 41$, $x = 10$ · $3x + 11 = 47$, $x = 12$ · $3x + 9 = 30$, $x = 7$ · $5x + 2 = 12$, $x = 2$ · $4x + 6 = 26$, $x = 5$