



The Spindletop Sabotage

Grade 5 math · Subtraction, Addition, Multiplication, Fractions of a number · Reading level grades 5-6

Detective: _____ **Date:** _____

At the Spindletop Basin exhibition, Joshua Oil and Big Texas Oil proudly unveiled their new super-drill. But overnight, a sneaky saboteur from the rival JohnDoe Oil Company snuck into the control shack, scrambled the drilling coordinates, and vanished into the dust! The Chief Geologist needs your help to crack the clues, solve the math, and identify the saboteur before they ruin the entire oil field.

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 rival saboteur is _____

Possible suspects

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

NAME	PRIMARY SKILL	SPECIAL TOOL	CLIPBOARD PREFERENCE	HAIR COLOR	SUSCEPTIBILITY
Slick Henderson	seismic scanning	thermal imaging	uses digital clipboard	jet black hair	scared of bats
Colt Cooper	well pressure tuning	laser surveying	uses paper clipboard	jet black hair	scared of bats
Ranger Vance	heavy pipe lifting	thermal imaging	uses paper clipboard	jet black hair	allergic to diesel fumes
Buster Texas	well pressure tuning	laser surveying	uses digital clipboard	jet black hair	scared of bats
Baron Doe	heavy pipe lifting	thermal imaging	uses paper clipboard	jet black hair	scared of bats
Dallas Miller	rig piloting	laser surveying	uses paper clipboard	jet black hair	scared of bats
Wyatt Rigby	seismic scanning	solar grid charging	uses paper clipboard	dusty brown hair	scared of bats
Sunny Houston	heavy pipe lifting	thermal imaging	uses digital clipboard	jet black hair	allergic to diesel fumes
Derrick Vance	seismic scanning	drone scouting	uses paper clipboard	jet black hair	scared of bats
Rusty Joshua	well pressure tuning	solar grid charging	uses digital clipboard	dusty brown hair	dislikes loud alarms
Maverick Stone	well pressure tuning	drone scouting	uses paper clipboard	jet black hair	allergic to diesel fumes
Billie Texas	seismic scanning	solar grid charging	uses digital clipboard	dusty brown hair	allergic to diesel fumes
Boots Calhoun	heavy pipe lifting	solar grid charging	uses digital clipboard	bright red hair	dislikes loud alarms
Texanna Texas	heavy pipe lifting	drone scouting	uses digital clipboard	bright red hair	scared of bats
Sly Doe	blueprint mapping	thermal imaging	uses paper clipboard	bright red hair	scared of bats
Lasso Lou	well pressure tuning	mud pump rigging	uses paper clipboard	dusty brown hair	allergic to diesel fumes
Clara Spindletop	seismic scanning	mud pump rigging	uses paper clipboard	bright red hair	dislikes loud alarms
Tex Denton	blueprint mapping	solar grid charging	uses paper clipboard	dusty brown hair	scared of bats
Abby Petroleum	blueprint mapping	laser surveying	uses paper clipboard	dusty brown hair	scared of bats
Mack JohnDoe	well pressure tuning	mud pump rigging	uses paper clipboard	bright red hair	scared of bats
Pearl Joshua	blueprint mapping	laser surveying	uses paper clipboard	jet black hair	scared of bats

CLUE 1 Subtraction

To find the first clue, we need to compare the shipping manifests. Calculate the difference between the barrels shipped by Joshua Oil and the smaller batch sent by Big Texas Oil.

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

T							T										T
3213	3296	1306	4348	6884	6224	1586	3213	1306	7477	7396	1050	1586	1306	4348	3819	1586	3213

										T			
7477	4348	1306	1050	7396	1586	3819	1306	4348	2291	1586	7477	3213	8659

$4203 - 990 = \boxed{} \rightarrow \boxed{T}$

$1388 - 82 = \boxed{} \rightarrow \boxed{E}$

$4631 - 3045 = \boxed{} \rightarrow \boxed{O}$

$10553 - 4329 = \boxed{} \rightarrow \boxed{B}$

$10671 - 2012 = \boxed{} \rightarrow \boxed{I}$

$4936 - 1117 = \boxed{} \rightarrow \boxed{N}$

$11580 - 4696 = \boxed{} \rightarrow \boxed{A}$

$7583 - 4287 = \boxed{} \rightarrow \boxed{H}$

$8262 - 3914 = \boxed{} \rightarrow \boxed{S}$

$5801 - 4731 = \boxed{} \rightarrow \boxed{G}$

$8692 - 1215 = \boxed{} \rightarrow \boxed{U}$

$4118 - 3068 = \boxed{} \rightarrow \boxed{D}$

$4060 - 1769 = \boxed{} \rightarrow \boxed{C}$

$8665 - 1269 = \boxed{} \rightarrow \boxed{R}$

Scratch space:

CLUE 2 Addition

A stack of pipe sections was left near the main valve. Total up the lengths of all three copper pipelines to find where the next clue was dropped.

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

T															
3824	8284	9137	3449	3408	5658	5658	5704	3408	5368	8768	6042	9137	6042	5704	

3561	5704	3561	9137	9104	7491	5658	3408	3561	6948	5773	5704	9104	3524	

$1196 + 2628 = \square \rightarrow \text{T}$	$2426 + 2942 = \square \rightarrow \text{N}$	$5360 + 3777 = \square \rightarrow \text{E}$
$1338 + 2186 = \square \rightarrow \text{D}$	$1762 + 1646 = \square \rightarrow \text{I}$	$2391 + 4557 = \square \rightarrow \text{B}$
$5503 + 2781 = \square \rightarrow \text{H}$	$5768 + 3000 = \square \rightarrow \text{U}$	$1904 + 3800 = \square \rightarrow \text{A}$
$1638 + 1811 = \square \rightarrow \text{V}$	$3648 + 2125 = \square \rightarrow \text{O}$	$2298 + 3360 = \square \rightarrow \text{L}$
$3484 + 5620 = \square \rightarrow \text{R}$	$3888 + 3603 = \square \rightarrow \text{C}$	$3417 + 2625 = \square \rightarrow \text{S}$
$2488 + 1073 = \square \rightarrow \text{P}$		

Scratch space:

CLUE 3

Multiplication facts (1-12)

The JohnDoe security cameras are arranged in a massive grid. Multiply the rows of cameras by the columns to bypass the system and read the hair color file.

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

T																		
77	4	21	6	80	16	3	21	30	30	4	16	44	72	56	21	72	45	

				T	
16	56	99	72	77	30

$7 \times 11 = \square \rightarrow \boxed{\text{T}}$

$3 \times 7 = \square \rightarrow \boxed{\text{E}}$

$4 \times 1 = \square \rightarrow \boxed{\text{H}}$

$8 \times 10 = \square \rightarrow \boxed{\text{L}}$

$7 \times 8 = \square \rightarrow \boxed{\text{F}}$

$10 \times 3 = \square \rightarrow \boxed{\text{S}}$

$6 \times 12 = \square \rightarrow \boxed{\text{A}}$

$9 \times 11 = \square \rightarrow \boxed{\text{B}}$

$11 \times 4 = \square \rightarrow \boxed{\text{W}}$

$1 \times 3 = \square \rightarrow \boxed{\text{V}}$

$2 \times 3 = \square \rightarrow \boxed{\text{G}}$

$4 \times 4 = \square \rightarrow \boxed{\text{O}}$

$5 \times 9 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 4
Fractions of a number

A map of the oil basin was torn into equal sections. Find the exact fractional share of the map that belongs to Big Texas Oil to reveal the weakness clue.

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

D										D									
22	3	18	2	5	26	18	3	28	22	5	13	17	6	28	38	26	25		
26	8	11	13	25	28	26	18	25	17	5									

$2/3 \text{ of } 33 = \square \rightarrow \text{D}$

$4/8 \text{ of } 34 = \square \rightarrow \text{L}$

$2/4 \text{ of } 50 = \square \rightarrow \text{O}$

$6/10 \text{ of } 30 = \square \rightarrow \text{R}$

$2/4 \text{ of } 12 = \square \rightarrow \text{I}$

$1/6 \text{ of } 78 = \square \rightarrow \text{C}$

$2/4 \text{ of } 76 = \square \rightarrow \text{G}$

$1/3 \text{ of } 78 = \square \rightarrow \text{T}$

$3/6 \text{ of } 16 = \square \rightarrow \text{H}$

$1/3 \text{ of } 6 = \square \rightarrow \text{K}$

$2/4 \text{ of } 10 = \square \rightarrow \text{S}$

$1/2 \text{ of } 56 = \square \rightarrow \text{N}$

$1/4 \text{ of } 44 = \square \rightarrow \text{E}$

$2/8 \text{ of } 12 = \square \rightarrow \text{A}$

Scratch space:

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

Only a small fraction of the fuel canisters are safe to open. Calculate the correct fraction of the twenty total canisters to unlock the final secret.

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:

$2/5 \text{ of } 25 = \boxed{}$

$2/10 \text{ of } 35 = \boxed{}$

$3/5 \text{ of } 5 = \boxed{}$

$1/10 \text{ of } 20 = \boxed{}$

$5/10 \text{ of } 16 = \boxed{}$

$1/5 \text{ of } 55 = \boxed{}$

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

$1/10 \text{ of } 50 = \boxed{}$

$4/5 \text{ of } 15 = \boxed{}$

$2/10 \text{ of } 5 = \boxed{}$

$4/10 \text{ of } 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swapped the geological maps, then hoisted a rival company banner.
2. The villain drained the oil storage tanks, then fled in a dusty JohnDoe pickup.
3. The villain locked the main rig gate, then fled in a dusty JohnDoe pickup.
4. The villain swapped the geological maps, then left muddy boots in the office.
5. The villain locked the main rig gate, then dropped a shiny silver wrench.
6. The villain swapped the geological maps, then fled in a dusty JohnDoe pickup.
7. The villain scrambled the pressure valves, then fled in a dusty JohnDoe pickup.
8. The villain locked the main rig gate, then spilled a cup of hot black coffee.
9. The villain swapped the geological maps, then spilled a cup of hot black coffee.
10. The villain unplugged the power generator, then fled in a dusty JohnDoe pickup.
11. The villain drained the oil storage tanks, then dropped a shiny silver wrench.
12. The villain unplugged the power generator, then dropped a shiny silver wrench.

Answer Key

The Spindletop Sabotage

Culprit: Baron Doe

heavy pipe lifting · thermal imaging · uses paper clipboard · jet black hair · scared of bats

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 9 → Clue 4 4 → Clue 5 1

Clue 1 (Subtraction): "THE SABOTEUR DOES NOT USE DRONE SCOUTING"

$4203 - 990 = 3213$ (T) · $1388 - 82 = 1306$ (E) · $4631 - 3045 = 1586$ (O) · $10553 - 4329 = 6224$ (B) · $10671 - 2012 = 8659$ (I) · $4936 - 1117 = 3819$ (N) · $11580 - 4696 = 6884$ (A) · $7583 - 4287 = 3296$ (H) · $8262 - 3914 = 4348$ (S) · $5801 - 4731 = 1070$ (G) · $8692 - 1215 = 7477$ (U) · $4118 - 3068 = 1050$ (D) · $4060 - 1769 = 2291$ (C) · $8665 - 1269 = 7396$ (R)

Clue 2 (Addition): "THE VILLAIN USES A PAPER CLIPBOARD"

$1196 + 2628 = 3824$ (T) · $2426 + 2942 = 5368$ (N) · $5360 + 3777 = 9137$ (E) · $1338 + 2186 = 3524$ (D) · $1762 + 1646 = 3408$ (I) · $2391 + 4557 = 6948$ (B) · $5503 + 2781 = 8284$ (H) · $5768 + 3000 = 8768$ (U) · $1904 + 3800 = 5704$ (A) · $1638 + 1811 = 3449$ (V) · $3648 + 2125 = 5773$ (O) · $2298 + 3360 = 5658$ (L) · $3484 + 5620 = 9104$ (R) · $3888 + 3603 = 7491$ (C) · $3417 + 2625 = 6042$ (S) · $2488 + 1073 = 3561$ (P)

Clue 3 (Multiplication facts (1-12)): "THE GLOVES SHOW A FEAR OF BATS"

$7 \times 11 = 77$ (T) · $3 \times 7 = 21$ (E) · $4 \times 1 = 4$ (H) · $8 \times 10 = 80$ (L) · $7 \times 8 = 56$ (F) · $10 \times 3 = 30$ (S) · $6 \times 12 = 72$ (A) · $9 \times 11 = 99$ (B) · $11 \times 4 = 44$ (W) · $1 \times 3 = 3$ (V) · $2 \times 3 = 6$ (G) · $4 \times 4 = 16$ (O) · $5 \times 9 = 45$ (R)

Clue 4 (Fractions of a number): "DARK STRANDS CLING TO THE CONTROLS"

$\frac{2}{3}$ of 33 = 22 (D) · $\frac{4}{8}$ of 34 = 17 (L) · $\frac{2}{4}$ of 50 = 25 (O) · $\frac{6}{10}$ of 30 = 18 (R) · $\frac{2}{4}$ of 12 = 6 (I) · $\frac{1}{6}$ of 78 = 13 (C) · $\frac{2}{4}$ of 76 = 38 (G) · $\frac{1}{3}$ of 78 = 26 (T) · $\frac{3}{6}$ of 16 = 8 (H) · $\frac{1}{3}$ of 6 = 2 (K) · $\frac{2}{4}$ of 10 = 5 (S) · $\frac{1}{2}$ of 56 = 28 (N) · $\frac{1}{4}$ of 44 = 11 (E) · $\frac{2}{8}$ of 12 = 3 (A)

Clue 5 (Fractions of a number): surviving statement is box 9 → Baron Doe

$\frac{2}{5}$ of 25 = 10 · $\frac{2}{10}$ of 35 = 7 · $\frac{3}{5}$ of 5 = 3 · $\frac{1}{10}$ of 20 = 2 · $\frac{5}{10}$ of 16 = 8 · $\frac{1}{5}$ of 55 = 11 · $\frac{6}{8}$ of 8 = 6 · $\frac{1}{10}$ of 50 = 5 · $\frac{4}{5}$ of 15 = 12 · $\frac{2}{10}$ of 5 = 1 · $\frac{4}{10}$ of 10 = 4