



The Paleo-Galactic Outpost Heist

Grade 10 math · Multiplication, Fractions of a number, Word problems, Multi-step word problems, Division · Reading level grades 7-9

Detective: _____ Date: _____

A rogue Saurian agent has breached the high-security vault of the Paleo-Galactic Outpost, making off with the priceless Golden Raptor Egg. As the star station's lead investigator, you must track the thief across the asteroid belt before they escape into deep space.

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 rogue Saurian agent is _____

Possible suspects

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

NAME	PRIMARY ABILITY	DEFENSE UTILITY	OBSERVED HANDEDNESS	HEAD CREST STYLE	TACTICAL VULNERABILITY
Commander Raptor	plasma jetpack	rocket booster	right handed laser	spiked neck frill	magnet trap
Major Megasaur	sonic roar	hologram decoy	left handed laser	spiked neck frill	sound wave
Giga Gary	cyber tail	rocket booster	right handed laser	neon blue crest	ice blast
Dr Steg	sonic roar	tractor beam	right handed laser	spiked neck frill	sound wave
Sally Star	gravity boots	hologram decoy	right handed laser	spiked neck frill	magnet trap
Tina Tricera	plasma jetpack	stealth cloak	right handed laser	neon blue crest	sound wave
Astro Ankylo	laser claws	stealth cloak	left handed laser	spiked neck frill	magnet trap
Rex Orbit	sonic roar	tractor beam	right handed laser	spiked neck frill	ice blast
Roxy Rex	cyber tail	stealth cloak	right handed laser	spiked neck frill	sound wave
Nebula Ned	plasma jetpack	hologram decoy	right handed laser	gold head feathers	magnet trap
Asteroid Al	plasma jetpack	rocket booster	left handed laser	gold head feathers	ice blast
Stella Saur	cyber tail	stealth cloak	left handed laser	spiked neck frill	magnet trap
Baron Bronto	sonic roar	stealth cloak	right handed laser	gold head feathers	ice blast
Comet Claw	laser claws	force shield	right handed laser	spiked neck frill	sound wave
Dino Dave	sonic roar	stealth cloak	right handed laser	spiked neck frill	sound wave
Nova Nedra	laser claws	force shield	right handed laser	spiked neck frill	magnet trap
Cosmo Cooper	plasma jetpack	rocket booster	left handed laser	spiked neck frill	ice blast
Captain Carno	plasma jetpack	tractor beam	left handed laser	gold head feathers	magnet trap
Trixie Nova	sonic roar	force shield	right handed laser	spiked neck frill	sound wave
Raptor Ray	laser claws	rocket booster	right handed laser	gold head feathers	sound wave
Pete Pterodactyl	cyber tail	stealth cloak	right handed laser	gold head feathers	ice blast

CLUE 1

Multiplication facts (1-12)

The tactical display shows several rows of cargo containers in the loading bay. Multiply the rows by the containers to unlock the ship coordinates.

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

T																T
7	11	12	3	33	28	28	45	33	144	5	63	12	1	144	63	7
				T				T								
99	1	12	45	7	132	45	84	7	63	132	110	12	45	6		

$1 \times 7 = \square \rightarrow \boxed{\text{T}}$

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

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

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

$7 \times 4 = \square \rightarrow \boxed{\text{L}}$

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

$1 \times 1 = \square \rightarrow \boxed{\text{S}}$

$1 \times 5 = \square \rightarrow \boxed{\text{D}}$

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

$11 \times 1 = \square \rightarrow \boxed{\text{H}}$

$12 \times 1 = \square \rightarrow \boxed{\text{E}}$

$10 \times 11 = \square \rightarrow \boxed{\text{B}}$

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

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

$11 \times 3 = \square \rightarrow \boxed{\text{I}}$

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

Scratch space:

CLUE 2

Fractions of a number

The suspect's warp engine left a glowing plasma trail. Calculate the remaining fraction of fuel to trace their flight path.

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

R																	
3	5	45	47	7	47	4	42	46	22	46	58	48	4	23	7	55	42
7	47	22	41	55	41	12	19	5	7	46	55	55	3				

$1/8$ of 24 = → R	$2/6$ of 123 = → C	$7/10$ of 60 = → N
$6/10$ of 80 = → L	$2/6$ of 15 = → I	$1/6$ of 138 = → S
$6/10$ of 75 = → G	$2/4$ of 8 = → A	$2/6$ of 141 = → H
$2/4$ of 24 = → K	$1/4$ of 88 = → E	$3/6$ of 116 = → B
$1/6$ of 42 = → T	$1/3$ of 57 = → P	$2/3$ of 69 = → D
$1/2$ of 110 = → O		

Scratch space:

CLUE 3

Word problems

Our team intercepts a coded transmission from the asteroid belt. Solve this orbital puzzle to decrypt the signals.

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

Someone scared the villain off with S V E .

66 14 81 27 54 32 110

Ranger lined up 11 rows of 6 laser batteries. How many laser batteries in all?

Answer: → S

Ranger lined up 8 rows of 4 laser batteries. How many laser batteries in all?

Answer: → W

Ranger found 21 comet crystals yesterday and 6 more today. How many comet crystals in all?

Answer: → N

Ranger lined up 2 rows of 7 meteor fragments. How many meteor fragments in all?

Answer: → O

Ranger lined up 9 rows of 9 comet crystals. How many comet crystals in all?

Answer: → U

Ranger found 34 fossil cores yesterday and 20 more today. How many fossil cores in all?

Answer: → D

There were 130 laser batteries. 20 were used up. How many laser batteries are left?

Answer: → A

Scratch space:

CLUE 4

Multi-step word problems

We need to monitor the oxygen output of the outpost across several shifts. Run the multi-step calculation to reboot the tracking array.

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

A strand of S C F R L L hair turned up at the scene.

There were 483 meteor fragments in all. 3 Star-Saur Squad used 16 meteor fragments each. The other 5 Star-Saur Squad shared the rest equally. How many meteor fragments did each of the other Star-Saur Squad get?

Answer: → S

Ranger earned 6 fossil cores in each of 2 rounds, plus 49 bonus fossil cores. Then 4 fossil cores were lost. How many fossil cores are left?

Answer: → K

There were 470 meteor fragments in all. 1 Star-Saur Squad used 14 meteor fragments each. The other 6 Star-Saur Squad shared the rest equally. How many meteor fragments did each of the other Star-Saur Squad get?

Answer: → D

There were 149 meteor fragments in all. 30 meteor fragments were set aside. The rest were shared equally among 7 Star-Saur Squad. How many meteor fragments did each get?

Answer: → P

Ranger filled 2 boxes with 9 laser batteries each, then found 40 more laser batteries. How many laser batteries are there in all?

Answer: → I

Ranger collected 53 comet crystals in the morning and 131 comet crystals in the afternoon, then split them equally among 4 Star-Saur Squad. How many comet crystals did each get?

Answer: → N

Ranger collected 142 meteor fragments in the morning and 8 meteor fragments in the afternoon, then split them equally among 6 Star-Saur Squad. How many meteor fragments did each get?

Answer: → E

Scratch space:

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

To search the asteroid belt efficiently, we must divide our scout ships among the search grids. Find the ships per sector to corner the suspect.

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:

$35 \div 7 = \boxed{}$

$15 \div 5 = \boxed{}$

$14 \div 7 = \boxed{}$

$7 \div 7 = \boxed{}$

$100 \div 10 = \boxed{}$

$77 \div 7 = \boxed{}$

$99 \div 11 = \boxed{}$

$48 \div 4 = \boxed{}$

$66 \div 11 = \boxed{}$

$80 \div 10 = \boxed{}$

$40 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain flies through corridors using a plasma jetpack, then escapes into the dark with a hologram decoy.
2. The villain disorients the guards with a sonic roar, then fades from sight using a stealth cloak.
3. The villain disorients the guards with a sonic roar, then blocks laser fire with a force shield.
4. The villain jumps high with gravity boots, then snatches the golden raptor egg with a tractor beam.
5. The villain smashes security drones with a cyber tail, then fades from sight using a stealth cloak.
6. The villain flies through corridors using a plasma jetpack, then blasts out of the atmosphere using a rocket booster.
7. The villain shreds the bulkhead with laser claws, then blocks laser fire with a force shield.
8. The villain shreds the bulkhead with laser claws, then snatches the golden raptor egg with a tractor beam.
9. The villain flies through corridors using a plasma jetpack, then snatches the golden raptor egg with a tractor beam.
10. The villain disorients the guards with a sonic roar, then escapes into the dark with a hologram decoy.
11. The villain disorients the guards with a sonic roar, then snatches the golden raptor egg with a tractor beam.
12. The villain shreds the bulkhead with laser claws, then fades from sight using a stealth cloak.

Answer Key

The Paleo-Galactic Outpost Heist

Culprit: Comet Claw

laser claws · force shield · right handed laser · spiked neck frill · sound wave

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A TRACTOR BEAM"

$1 \times 7 = 7$ (T) · $2 \times 3 = 6$ (M) · $9 \times 11 = 99$ (U) · $12 \times 12 = 144$ (N) · $7 \times 4 = 28$ (L) · $7 \times 12 = 84$ (C) · $1 \times 1 = 1$ (S) · $1 \times 5 = 5$ (D) · $11 \times 12 = 132$ (R) · $11 \times 1 = 11$ (H) · $12 \times 1 = 12$ (E) · $10 \times 11 = 110$ (B) · $7 \times 9 = 63$ (O) · $3 \times 1 = 3$ (V) · $11 \times 3 = 33$ (I) · $9 \times 5 = 45$ (A)

Clue 2 (Fractions of a number): "RIGHT HANDED BLAST ON THE COCKPIT DOOR"

$1/8$ of 24 = 3 (R) · $2/6$ of 123 = 41 (C) · $7/10$ of 60 = 42 (N) · $6/10$ of 80 = 48 (L) · $2/6$ of 15 = 5 (I) · $1/6$ of 138 = 23 (S) · $6/10$ of 75 = 45 (G) · $2/4$ of 8 = 4 (A) · $2/6$ of 141 = 47 (H) · $2/4$ of 24 = 12 (K) · $1/4$ of 88 = 22 (E) · $3/6$ of 116 = 58 (B) · $1/6$ of 42 = 7 (T) · $1/3$ of 57 = 19 (P) · $2/3$ of 69 = 46 (D) · $1/2$ of 110 = 55 (O)

Clue 3 (Word problems): "SOUND WAVE"

Ranger lined up 11 rows of 6 laser batteries. How many laser batteries in all? = 66 (S) · Ranger lined up 8 rows of 4 laser batteries. How many laser batteries in all? = 32 (W) · Ranger found 21 comet crystals yesterday and 6 more today. How many comet crystals in all? = 27 (N) · Ranger lined up 2 rows of 7 meteor fragments. How many meteor fragments in all? = 14 (O) · Ranger lined up 9 rows of 9 comet crystals. How many comet crystals in all? = 81 (U) · Ranger found 34 fossil cores yesterday and 20 more today. How many fossil cores in all? = 54 (D) · There were 130 laser batteries. 20 were used up. How many laser batteries are left? = 110 (A)

Clue 4 (Multi-step word problems): "SPIKED NECK FRILL"

There were 483 meteor fragments in all. 3 Star-Saur Squad used 16 meteor fragments each. The other 5 Star-Saur Squad shared the rest equally. How many meteor fragments did each of the other Star-Saur Squad get? = 87 (S) · Ranger earned 6 fossil cores in each of 2 rounds, plus 49 bonus fossil cores. Then 4 fossil cores were lost. How many fossil cores are left? = 57 (K) · There were 470 meteor fragments in all. 1 Star-Saur Squad used 14 meteor fragments each. The other 6 Star-Saur Squad shared the rest equally. How many meteor fragments did each of the other Star-Saur Squad get? = 76 (D) · There were 149 meteor fragments in all. 30 meteor fragments were set aside. The rest were shared equally among 7 Star-Saur Squad. How many meteor fragments did each get? = 17 (P) · Ranger filled 2 boxes with 9 laser batteries each, then found 40 more laser batteries. How many laser batteries are there in all? = 58 (I) · Ranger collected 53 comet crystals in the morning and 131 comet crystals in the afternoon, then split them equally among 4 Star-Saur Squad. How many comet crystals did each get? = 46 (N) · Ranger collected 142 meteor fragments in the morning and 8 meteor fragments in the afternoon, then split them equally among 6 Star-Saur Squad. How many meteor fragments did each get? = 25 (E)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Comet Claw

$35 \div 7 = 5$ · $15 \div 5 = 3$ · $14 \div 7 = 2$ · $7 \div 7 = 1$ · $100 \div 10 = 10$ · $77 \div 7 = 11$ · $99 \div 11 = 9$ · $48 \div 4 = 12$ · $66 \div 11 = 6$ · $80 \div 10 = 8$ · $40 \div 10 = 4$