

The Assembly Yard Heist

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

A sneaky Rogue Bot has broken into the Robo-opolis Assembly Yard and stolen the golden power core! The Chief Mechanic needs your help to scan the bots and find the thief before they power down.

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 Bot is _____

Possible suspects

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

NAME	TOOL ARM	SECONDARY SENSOR	OIL LEAK SIDE	ANTENNA HEAD	SYSTEM GLITCH
Rivets	drilling claw	radar dish	right drips	green prong antenna	rust spray
Sprocket	sonic speaker	radar dish	right drips	green prong antenna	water splash
Titan	sonic speaker	night vision	left drips	red spiral wire	rust spray
Alloy	welding laser	thermal scope	right drips	red spiral wire	rust spray
Clank	sonic speaker	thermal scope	left drips	red spiral wire	water splash
Widget	rocket booster	solar panel	right drips	green prong antenna	water splash
Gadget	welding laser	thermal scope	left drips	blue wire loop	rust spray
Copper	rocket booster	night vision	right drips	red spiral wire	water splash
Cogs	magnetic beam	laser pointer	right drips	red spiral wire	rust spray
Axle	welding laser	radar dish	left drips	red spiral wire	magnet pull
Rusty	magnetic beam	thermal scope	right drips	blue wire loop	rust spray
Volt	rocket booster	solar panel	left drips	green prong antenna	water splash
Robo	magnetic beam	solar panel	left drips	red spiral wire	rust spray
Turbo	magnetic beam	night vision	right drips	red spiral wire	rust spray
Gizmo	drilling claw	night vision	left drips	red spiral wire	rust spray
Geary	sonic speaker	laser pointer	left drips	blue wire loop	rust spray
Sparky	welding laser	thermal scope	left drips	red spiral wire	rust spray
Blinky	magnetic beam	thermal scope	right drips	red spiral wire	water splash
Radar	drilling claw	solar panel	left drips	green prong antenna	water splash
Circuit	rocket booster	solar panel	left drips	red spiral wire	rust spray
Tracker	rocket booster	radar dish	left drips	red spiral wire	rust spray

CLUE 1 Place value

You boot up a broken computer screen to read the secret security code. Count the hundreds, tens, and ones to get the clue.

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

T			T											T				
45	23	52	45	23	56	52	77	70	55	52	76	17	55	45	59	76	52	98
76	55	47	98	15	13	98	17	52	47									

What number has 4 tens and 5 ones? → **T**

What number has 7 tens and 7 ones? → **F**

What number has 9 tens and 8 ones? → **A**

What number has 1 ten and 7 ones? → **N**

What number has 4 tens and 7 ones? → **L**

What number has 7 tens and 0 ones? → **D**

What number has 1 ten and 3 ones? → **P**

What number has 1 ten and 5 ones? → **R**

What number has 7 tens and 6 ones? → **S**

What number has 5 tens and 9 ones? → **U**

What number has 5 tens and 6 ones? → **I**

What number has 2 tens and 3 ones? → **H**

What number has 5 tens and 5 ones? → **O**

What number has 5 tens and 2 ones? → **E**

Scratch space:

CLUE 2 Addition

A scrap pile contains two bins of shiny bolts. Add the bolts in both bins together to see what the witness left behind.

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

T																	
50	30	52	96	73	24	38	79	73	71	83	92	52	79	52			
								T					T				
48	96	65	41	38	96	41	50	30	52	24	52	48	50	83	73	38	52

$28 + 22 = \square \rightarrow$ T	$44 + 21 = \square \rightarrow$ U	$26 + 45 = \square \rightarrow$ P
$50 + 29 = \square \rightarrow$ R	$37 + 55 = \square \rightarrow$ W	$14 + 16 = \square \rightarrow$ H
$57 + 39 = \square \rightarrow$ O	$8 + 16 = \square \rightarrow$ L	$27 + 14 = \square \rightarrow$ N
$23 + 15 = \square \rightarrow$ D	$23 + 25 = \square \rightarrow$ F	$33 + 50 = \square \rightarrow$ S
$26 + 26 = \square \rightarrow$ E	$34 + 39 = \square \rightarrow$ I	

Scratch space:

CLUE 3

Subtraction

The escape pod has a leaking fuel tank. Subtract the lost fuel from the total to find the next clue on the radar.

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

S										S								
39	70	59	58	17	41	26	50	59	86	39	22	59	14	12	28	47	14	59

				S							S			
35	41	36	36	39	22	28	70	22	85	41	39	29	28	22

$67 - 28 = \square \rightarrow \boxed{\text{S}}$

$33 - 11 = \square \rightarrow \boxed{\text{T}}$

$39 - 25 = \square \rightarrow \boxed{\text{E}}$

$122 - 37 = \square \rightarrow \boxed{\text{H}}$

$49 - 23 = \square \rightarrow \boxed{\text{N}}$

$86 - 39 = \square \rightarrow \boxed{\text{V}}$

$48 - 20 = \square \rightarrow \boxed{\text{O}}$

$76 - 17 = \square \rightarrow \boxed{\text{R}}$

$74 - 38 = \square \rightarrow \boxed{\text{L}}$

$50 - 15 = \square \rightarrow \boxed{\text{W}}$

$85 - 27 = \square \rightarrow \boxed{\text{A}}$

$43 - 2 = \square \rightarrow \boxed{\text{I}}$

$74 - 4 = \square \rightarrow \boxed{\text{P}}$

$36 - 7 = \square \rightarrow \boxed{\text{B}}$

$15 - 3 = \square \rightarrow \boxed{\text{M}}$

$27 - 10 = \square \rightarrow \boxed{\text{Y}}$

$52 - 2 = \square \rightarrow \boxed{\text{G}}$

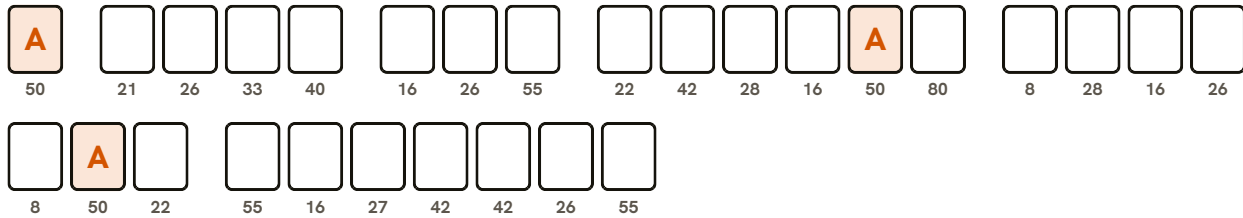
$97 - 11 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 4 Skip counting

A crate holds rows of power cells lined up in perfect rows. Skip count the cells to unlock the database file.

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



Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, __, 55, 60 → **A**

Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 → **W**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **N**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **P**

Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 → **T**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **S**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **B**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 → **D**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **O**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, __, 30, 32 → **I**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **E**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **L**

Scratch space:

CLUE 5**Missing addends - the last clue**

The charging station needs a target power level to start. Find the missing number to boot up the system and reveal the thief.

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:

$6 + \underline{\quad} = 13$

$6 + \underline{\quad} = 16$

$9 + \underline{\quad} = 21$

$1 + \underline{\quad} = 10$

$7 + \underline{\quad} = 11$

$6 + \underline{\quad} = 9$

$8 + \underline{\quad} = 9$

$5 + \underline{\quad} = 11$

$4 + \underline{\quad} = 9$

$3 + \underline{\quad} = 5$

$8 + \underline{\quad} = 16$

Step 2 - cross out the sentence with each answer:

1. The villain shatters the glass window with a sonic speaker, then spots the guards with a radar dish.
2. The villain zaps the safety gate with a welding laser, then spots the guards with a radar dish.
3. The villain pulls open the metal safe with a magnetic beam, then spots the guards with a radar dish.
4. The villain tunnels under the garage floor with a drilling claw, then charges up batteries with a solar panel.
5. The villain flies over the security fence with a rocket booster, then tracks heat signatures with a thermal scope.
6. The villain tunnels under the garage floor with a drilling claw, then aims at the control button with a laser pointer.
7. The villain tunnels under the garage floor with a drilling claw, then navigates the dark warehouse with night vision.
8. The villain flies over the security fence with a rocket booster, then navigates the dark warehouse with night vision.
9. The villain tunnels under the garage floor with a drilling claw, then tracks heat signatures with a thermal scope.
10. The villain shatters the glass window with a sonic speaker, then navigates the dark warehouse with night vision.
11. The villain flies over the security fence with a rocket booster, then spots the guards with a radar dish.
12. The villain zaps the safety gate with a welding laser, then tracks heat signatures with a thermal scope.

Answer Key

The Assembly Yard Heist

Culprit: Tracker

rocket booster · radar dish · left drips · red spiral wire · rust spray

Trail: Start 21 → Clue 1 16 → Clue 2 8 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE A SOLAR PANEL"

What number has 4 tens and 5 ones? = 45 (T) · What number has 7 tens and 7 ones? = 77 (F) · What number has 9 tens and 8 ones? = 98 (A) · What number has 1 ten and 7 ones? = 17 (N) · What number has 4 tens and 7 ones? = 47 (L) · What number has 7 tens and 0 ones? = 70 (D) · What number has 1 ten and 3 ones? = 13 (P) · What number has 1 ten and 5 ones? = 15 (R) · What number has 7 tens and 6 ones? = 76 (S) · What number has 5 tens and 9 ones? = 59 (U) · What number has 5 tens and 6 ones? = 56 (I) · What number has 2 tens and 3 ones? = 23 (H) · What number has 5 tens and 5 ones? = 55 (O) · What number has 5 tens and 2 ones? = 52 (E)

Clue 2 (Addition): "THE OIL DRIPS WERE FOUND ON THE LEFT SIDE"

$28 + 22 = 50$ (T) · $44 + 21 = 65$ (U) · $26 + 45 = 71$ (P) · $50 + 29 = 79$ (R) · $37 + 55 = 92$ (W) · $14 + 16 = 30$ (H) · $57 + 39 = 96$ (O) · $8 + 16 = 24$ (L) · $27 + 14 = 41$ (N) · $23 + 15 = 38$ (D) · $23 + 25 = 48$ (F) · $33 + 50 = 83$ (S) · $26 + 26 = 52$ (E) · $34 + 39 = 73$ (I)

Clue 3 (Subtraction): "SPRAYING RUST REMOVER WILL STOP THIS BOT"

$67 - 28 = 39$ (S) · $33 - 11 = 22$ (T) · $39 - 25 = 14$ (E) · $122 - 37 = 85$ (H) · $49 - 23 = 26$ (N) · $86 - 39 = 47$ (V) · $48 - 20 = 28$ (O) · $76 - 17 = 59$ (R) · $74 - 38 = 36$ (L) · $50 - 15 = 35$ (W) · $85 - 27 = 58$ (A) · $43 - 2 = 41$ (I) · $74 - 4 = 70$ (P) · $36 - 7 = 29$ (B) · $15 - 3 = 12$ (M) · $27 - 10 = 17$ (Y) · $52 - 2 = 50$ (G) · $97 - 11 = 86$ (U)

Clue 4 (Skip counting): "A BENT RED SPIRAL WIRE WAS DROPPED"

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, __, 55, 60 = 50 (A) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (N) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (P) · Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 = 40 (T) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (B) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 = 55 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, __, 30, 32 = 28 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (L)

Clue 5 (Missing addends): surviving statement is box 11 → Tracker

$6 + \underline{\quad} = 13 = 7$ · $6 + \underline{\quad} = 16 = 10$ · $9 + \underline{\quad} = 21 = 12$ · $1 + \underline{\quad} = 10 = 9$ · $7 + \underline{\quad} = 11 = 4$ · $6 + \underline{\quad} = 9 = 3$ · $8 + \underline{\quad} = 9 = 1$ · $5 + \underline{\quad} = 11 = 6$ · $4 + \underline{\quad} = 9 = 5$ · $3 + \underline{\quad} = 5 = 2$ · $8 + \underline{\quad} = 16 = 8$