



The Case of the Canine Clones

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 3-4

Detective: _____ Date: _____

Oh no! A rogue clone has sneaked into the high-tech lab and swiped the Chief's golden badge! Sheriff Labrador and Officer Dobie need your help to track down the correct suspect before they escape. Let's solve the math puzzles and find the real 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 Rogue Clone is _____

Possible suspects

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

NAME	SIGNATURE GADGET	CLONE UPGRADE	LAB COAT PATCH	FUR COLOR	FAVORITE SNACK
Papillon Three	Radar Collar	Turbo Boots	Left Sleeve Patch	Papillon White	Sardine Treats
Dobie Six	Radar Collar	Sonar Ears	Right Sleeve Patch	Papillon White	Peanut Butter
Dobie Four	Net Launcher	Glider Pack	Right Sleeve Patch	Labrador Yellow	Peanut Butter
Papillon One	Radar Collar	Glider Pack	Left Sleeve Patch	Doberman Black	Peanut Butter
Labrador Two	Laser Lasso	Hologram Watch	Right Sleeve Patch	Labrador Yellow	Cheese Cubes
Papillon Five	Super Magnifier	Turbo Boots	Left Sleeve Patch	Doberman Black	Sardine Treats
Dobie Seven	Radar Collar	Turbo Boots	Left Sleeve Patch	Papillon White	Peanut Butter
Papillon Four	Super Magnifier	Hologram Watch	Left Sleeve Patch	Doberman Black	Sardine Treats
Dobie Three	Siren Whistle	Turbo Boots	Right Sleeve Patch	Papillon White	Peanut Butter
Papillon Six	Siren Whistle	Sonar Ears	Left Sleeve Patch	Doberman Black	Cheese Cubes
Labrador Eight	Net Launcher	Turbo Boots	Right Sleeve Patch	Papillon White	Peanut Butter
Labrador Seven	Laser Lasso	Turbo Boots	Right Sleeve Patch	Papillon White	Peanut Butter
Labrador Four	Net Launcher	Turbo Boots	Right Sleeve Patch	Papillon White	Cheese Cubes
Papillon Eight	Laser Lasso	Glider Pack	Left Sleeve Patch	Papillon White	Sardine Treats
Labrador Five	Radar Collar	Stealth Shield	Right Sleeve Patch	Doberman Black	Peanut Butter
Dobie Five	Super Magnifier	Stealth Shield	Left Sleeve Patch	Papillon White	Sardine Treats
Labrador One	Super Magnifier	Sonar Ears	Left Sleeve Patch	Doberman Black	Peanut Butter
Papillon Seven	Siren Whistle	Stealth Shield	Left Sleeve Patch	Doberman Black	Sardine Treats
Dobie Two	Siren Whistle	Stealth Shield	Left Sleeve Patch	Labrador Yellow	Sardine Treats
Dobie One	Laser Lasso	Turbo Boots	Right Sleeve Patch	Labrador Yellow	Cheese Cubes
Labrador Six	Laser Lasso	Glider Pack	Right Sleeve Patch	Papillon White	Peanut Butter

CLUE 1 Fractions of a number

Sheriff Labrador counts the cloned badges. Only a fraction of the clones are missing safety codes, which points us to our first lead.

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

13 29 21 24 26 31 31 18 26 20 3 7 21 14 20 7 13

29 18 24 21 14 7 20 18 23 21 18 23 14

$\frac{1}{3}$ of 39 = $\rightarrow$ **T**

$\frac{1}{5}$ of 130 = $\rightarrow$

1/10 of 70 = $\rightarrow$

$$3/6 \text{ of } 46 = \boxed{} \rightarrow \boxed{\text{R}}$$

$\frac{1}{2}$ of 42 = $\rightarrow$ **E**

4/6 of 21 = → **S**

$$2/6 \text{ of } 54 = \boxed{} \rightarrow \mathbf{A}$$

5/10 of 6 = → **D**

4/10 of 50 = → **N**

$$1/2 \text{ of } 48 = \boxed{} \rightarrow \mathbf{v}$$

$$\frac{1}{3} \text{ of } 87 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3/6 \text{ of } 62 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 2

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

A number line from 0 to 100. Major jumps of 10 are marked with white boxes containing numbers: 10, 20, 30, 40, 50, 60, 70, 80, 90. Major jumps of 25 are marked with orange boxes containing numbers: 25, 50, 75, 100. Each orange box is labeled with a large orange 'T' above the number. The line starts at 0 and ends at 100.

$$9 + 4 \times 4 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$5 \times 9 - 14 = \boxed{} \rightarrow \mathbf{D}$$

$$12 \times 7 - 27 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$5 \times 5 - 7 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$5 \times 8 - 18 = \boxed{} \rightarrow \boxed{0}$$

$$11 \times 6 - 16 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$2 \times 10^{-3} = \boxed{} \rightarrow \boxed{\text{E}}$$

$$10 \times 3 - 3 = \boxed{} \rightarrow \mathbf{P}$$

$$34 + 6 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{v}}$$

$$5 \times 8 - 21 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$$5 + 8 \times 8 = \boxed{} \rightarrow \left[\begin{array}{c} \mathbf{U} \\ \mathbf{V} \end{array} \right]$$

$$44 + 6 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{G}}$$

$$3 + 2 \times 2 = \boxed{} \rightarrow \boxed{\text{H}}$$

$7 \times 12 - 14 = \boxed{} \rightarrow \boxed{}$

$11 \times 6 - 10 = \boxed{} \rightarrow \boxed{\text{A}}$

$$9 \times 11 - 27 = \boxed{} \rightarrow \boxed{}$$

Scratch space:

Multiplication facts (1-12)

The team finds rows of empty clone pods. Multiplying the rows of pods helps us tally the escaped suspects.

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

Diagram illustrating the layout of a 2D convolution kernel on a 10x10 grid. The grid is divided into four groups of 2x2 blocks. The top-left block is highlighted in orange and contains the letter 'W'. Below each block are its dimensions: 49, 108, 11, 108, 3, 18, 108, 18, 110, 6, 108, 12, 55, 11, 11, 49, 121, 110, 6, 80, 108, 25, 3, 144, 110, 24, 144, 110, 110, 108, 28.

$7 \times 7 = \square \rightarrow \boxed{\mathbf{W}}$

$9 \times 12 = \square \rightarrow \mathbf{E}$

$1 \times 3 = \boxed{} \rightarrow \boxed{\mathbf{N}}$

$7 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{R}}$

$4 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$5 \times 11 = \boxed{} \rightarrow \boxed{0}$

$5 \times 5 =$ $\rightarrow$ **A**

$11 \times 1 = \square \rightarrow \mathbf{F}$

$12 \times 12 = \boxed{} \rightarrow \boxed{\text{U}}$

$2 \times 6 = \square \rightarrow \boxed{\mathbf{M}}$

$10 \times 8 = \boxed{} \rightarrow \boxed{\text{P}}$

$11 \times 11 = \boxed{} \rightarrow \boxed{1}$

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

$10 \times 11 = \boxed{} \rightarrow \boxed{}$

$3 \times 6 = \square \rightarrow \mathbf{D}$

Scratch space:

CLUE 4 Rounding

The tracking radar only shows rounded numbers for the clone speed. Rounding the signals gives us the next location.

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

W								W									
170	3700	50	2900	230	5000	200	2000	170	9000	290	5000	20	200	700	370	20	700
2900	3700	230	5000	70	20	20	2000										

Round 167 to the nearest ten → **W**

Round 51 to the nearest ten → **I**

Round 20 to the nearest ten → **O**

Round 70 to the nearest ten → **L**

Round 3,705 to the nearest hundred → **H**

Round 9,151 to the nearest thousand → **A**

Round 166 to the nearest hundred → **U**

Round 228 to the nearest ten → **E**

Round 293 to the nearest ten → **S**

Round 369 to the nearest ten → **D**

Round 1,731 to the nearest thousand → **R**

Round 686 to the nearest hundred → **N**

Round 5,331 to the nearest thousand → **F**

Round 2,897 to the nearest hundred → **T**

Scratch space:

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

Sheriff Labrador shares the evidence files equally among his squad. Division helps make sure every detective gets a fair clue.

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:

$12 \div 12 =$

$4 \div 2 =$

$22 \div 2 =$

$10 \div 1 =$

$132 \div 11 =$

$108 \div 12 =$

$20 \div 5 =$

$36 \div 6 =$

$40 \div 5 =$

$12 \div 4 =$

$35 \div 7 =$

Step 2 - cross out the sentence with each answer:

1. The villain blocked the hallway with a net launcher, then zoomed away using turbo boots.
2. The villain roped the security desk with a laser lasso, then zoomed away using turbo boots.
3. The villain blocked the hallway with a net launcher, then soared out the window with a glider pack.
4. The villain tracked the secret vault with a radar collar, then fooled the cameras with a hologram watch.
5. The villain blocked the hallway with a net launcher, then fooled the cameras with a hologram watch.
6. The villain zapped the lab locks with a super magnifier, then soared out the window with a glider pack.
7. The villain roped the security desk with a laser lasso, then soared out the window with a glider pack.
8. The villain tracked the secret vault with a radar collar, then soared out the window with a glider pack.
9. The villain roped the security desk with a laser lasso, then faded from sight using a stealth shield.
10. The villain zapped the lab locks with a super magnifier, then detected the patrol using sonar ears.
11. The villain distracted the guards with a siren whistle, then zoomed away using turbo boots.
12. The villain zapped the lab locks with a super magnifier, then fooled the cameras with a hologram watch.

Answer Key

The Case of the Canine Clones

Culprit: Labrador Six

Laser Lasso · Glider Pack · Right Sleeve Patch · Papillon White · Peanut Butter

Trail: Start 21 → Clue 1 18 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT HAVE SONAR EARS"

$\frac{1}{3}$ of 39 = 13 (T) · $\frac{1}{5}$ of 130 = 26 (I) · $\frac{1}{10}$ of 70 = 7 (O) · $\frac{3}{6}$ of 46 = 23 (R) · $\frac{1}{2}$ of 42 = 21 (E) · $\frac{4}{6}$ of 21 = 14 (S) · $\frac{2}{6}$ of 54 = 18 (A) · $\frac{5}{10}$ of 6 = 3 (D) · $\frac{4}{10}$ of 50 = 20 (N) · $\frac{1}{2}$ of 48 = 24 (V) · $\frac{1}{3}$ of 87 = 29 (H) · $\frac{3}{6}$ of 62 = 31 (L)

Clue 2 (Order of operations): "THE SUSPECT HAD A PATCH ON THE RIGHT SLEEVE"

$9 + 4 \times 4 = 25$ (T) · $5 \times 9 - 14 = 31$ (D) · $12 \times 7 - 27 = 57$ (N) · $5 \times 5 - 7 = 18$ (C) · $5 \times 8 - 18 = 22$ (O) · $11 \times 6 - 16 = 50$ (R) · $2 \times 10 - 3 = 17$ (E) · $10 \times 3 - 3 = 27$ (P) · $34 + 6 \times 4 = 58$ (V) · $5 \times 8 - 21 = 19$ (S) · $5 + 8 \times 8 = 69$ (U) · $44 + 6 \times 4 = 68$ (G) · $3 + 2 \times 2 = 7$ (H) · $7 \times 12 - 14 = 70$ (I) · $11 \times 6 - 10 = 56$ (A) · $9 \times 11 - 27 = 72$ (L)

Clue 3 (Multiplication facts (1-12)): "WE FENDED THEM OFF WITH PEANUT BUTTER"

$7 \times 7 = 49$ (W) · $9 \times 12 = 108$ (E) · $1 \times 3 = 3$ (N) · $7 \times 4 = 28$ (R) · $4 \times 6 = 24$ (B) · $5 \times 11 = 55$ (O) · $5 \times 5 = 25$ (A) · $11 \times 1 = 11$ (F) · $12 \times 12 = 144$ (U) · $2 \times 6 = 12$ (M) · $10 \times 8 = 80$ (P) · $11 \times 11 = 121$ (I) · $2 \times 3 = 6$ (H) · $10 \times 11 = 110$ (T) · $3 \times 6 = 18$ (D)

Clue 4 (Rounding): "WHITE FUR WAS FOUND ON THE FLOOR"

Round 167 to the nearest ten = 170 (W) · Round 51 to the nearest ten = 50 (I) · Round 20 to the nearest ten = 20 (O) · Round 70 to the nearest ten = 70 (L) · Round 3,705 to the nearest hundred = 3700 (H) · Round 9,151 to the nearest thousand = 9000 (A) · Round 166 to the nearest hundred = 200 (U) · Round 228 to the nearest ten = 230 (E) · Round 293 to the nearest ten = 290 (S) · Round 369 to the nearest ten = 370 (D) · Round 1,731 to the nearest thousand = 2000 (R) · Round 686 to the nearest hundred = 700 (N) · Round 5,331 to the nearest thousand = 5000 (F) · Round 2,897 to the nearest hundred = 2900 (T)

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

$12 \div 12 = 1$ · $4 \div 2 = 2$ · $22 \div 2 = 11$ · $10 \div 1 = 10$ · $132 \div 11 = 12$ · $108 \div 12 = 9$ · $20 \div 5 = 4$ · $36 \div 6 = 6$ · $40 \div 5 = 8$ · $12 \div 4 = 3$ · $35 \div 7 = 5$