

The Mystery of the Diamond Yarn Vault

Grade 4 math · Rounding, Addition, Subtraction, Multiplication, Division · Reading level grades 3-4

Detective: _____ Date: _____

The legendary Diamond Yarn Vault has been raided! A mysterious pixelated cat slipped past the iron golems, leaving claw marks and blocky footprints behind. It is up to you to decode the clues and catch the thief!

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 the Crafty Cat Burglar is _____

Possible suspects

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

NAME	MINECRAFT SKILL	CAT ABILITY	HOLDING STYLE	FUR COLOR	DISTRACTION BLOCK
Ocelot Steve	netherite mining	night vision	holds pickaxe in right hand	orange tabby fur	catnip block
Whiskers	redstone engineering	quick wool shredding	holds pickaxe in right hand	orange tabby fur	wet sponge
Noodle	speed bridging	night vision	holds pickaxe in right hand	orange tabby fur	glowing redstone lamp
DanTDM	redstone engineering	silent creeper sneaking	holds pickaxe in right hand	orange tabby fur	wet sponge
Felix	elytra gliding	silent creeper sneaking	holds pickaxe in right hand	calico patches	wet sponge
Sylvester	netherite mining	silent creeper sneaking	holds pickaxe in right hand	orange tabby fur	wet sponge
Socks	speed bridging	super high leaping	holds pickaxe in right hand	calico patches	wet sponge
Pounce	ender pearl teleporting	super high leaping	holds pickaxe in right hand	orange tabby fur	wet sponge
Clawde	ender pearl teleporting	super high leaping	holds pickaxe in left hand	calico patches	catnip block
Captain Pawz	ender pearl teleporting	speedy fish catching	holds pickaxe in right hand	calico patches	catnip block
Stampy Cat	netherite mining	speedy fish catching	holds pickaxe in right hand	orange tabby fur	wet sponge
Mittens	netherite mining	speedy fish catching	holds pickaxe in left hand	orange tabby fur	wet sponge
LDShadowLady	netherite mining	speedy fish catching	holds pickaxe in left hand	tuxedo black fur	glowing redstone lamp
Pixel	ender pearl teleporting	quick wool shredding	holds pickaxe in left hand	orange tabby fur	wet sponge
Purry	elytra gliding	night vision	holds pickaxe in right hand	tuxedo black fur	wet sponge
Alex	speed bridging	quick wool shredding	holds pickaxe in left hand	calico patches	glowing redstone lamp
Skeppy	elytra gliding	super high leaping	holds pickaxe in right hand	tuxedo black fur	catnip block
Lizzie	elytra gliding	speedy fish catching	holds pickaxe in left hand	orange tabby fur	catnip block
Tabby Sparklez	ender pearl teleporting	silent creeper sneaking	holds pickaxe in left hand	orange tabby fur	wet sponge
Mumbo	ender pearl teleporting	super high leaping	holds pickaxe in left hand	orange tabby fur	catnip block
Steve	elytra gliding	super high leaping	holds pickaxe in right hand	orange tabby fur	glowing redstone lamp

CLUE 1 Rounding

Our blocky scanner shows how far away the suspect is, but it only displays numbers rounded to the nearest ten.

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

T			T										T					
1100	430	300	1100	430	2300	300	200	7000	2900	4300	4300	30	1100	7000	2900	1100	7000	430
200	2300	110	430	900	9000	2300	7000	70	500	230								

Round 1,085 to the nearest hundred → **T**

Round 541 to the nearest hundred → **L**

Round 433 to the nearest ten → **H**

Round 6,513 to the nearest thousand → **C**

Round 4,286 to the nearest hundred → **N**

Round 28 to the nearest ten → **O**

Round 332 to the nearest hundred → **E**

Round 74 to the nearest ten → **K**

Round 232 to the nearest ten → **Y**

Round 114 to the nearest ten → **S**

Round 165 to the nearest hundred → **F**

Round 888 to the nearest hundred → **Q**

Round 2,891 to the nearest hundred → **A**

Round 8,781 to the nearest thousand → **U**

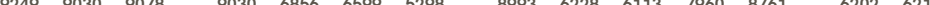
Round 2,274 to the nearest hundred → **I**

Scratch space:

CLUE 2 **Addition**

Let us count all the cobblestone blocks we found near the vault entrance to see how many the thief used.

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





2585 8761 6219 5298 7245 6599 9078 9030 6219 8761 9078 7245 6599 6219

$$1817 + 4073 = \boxed{} \rightarrow \boxed{\text{R}}$$

$2365 + 3748 = \boxed{} \rightarrow \boxed{\text{C}}$

$$3159 + 4086 = \boxed{} \rightarrow \boxed{0}$$

$$4016 + 4977 = \boxed{} \rightarrow \boxed{\text{P}}$$

$1088 + 1497 = \boxed{} \rightarrow \boxed{\text{U}}$

$$3138 + 2160 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$3204 + 5826 = \boxed{} \rightarrow \boxed{\text{H}}$$

$3987 + 2612 = \boxed{} \rightarrow \boxed{\text{N}}$

$$3341 + 3515 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$4935 + 3826 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5689 + 3389 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$3498 + 2704 = \boxed{} \rightarrow \boxed{\text{W}}$$

$3330 + 2889 = \boxed{} \rightarrow \boxed{\text{E}}$

$$5168 + 2792 = \boxed{} \rightarrow \boxed{\text{K}}$$

$6402 + 2847 = \boxed{} \rightarrow \boxed{\text{G}}$

$$4068 + 2160 = \boxed{} \rightarrow \boxed{\text{I}}$$

Scratch space:

CLUE 3

Subtraction

The thief knocked some glowing glowstone blocks out of the ceiling. Let us find out how many are missing now.

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

T			T							T					T
5304	5999	2227	5304	5999	6072	2227	8715	5999	1424	5304	2227	6177	5295	2227	5304

6177	7392	1480	7805	4501	2227	8223	6988	1480	7337	5735	6177

$7910 - 2606 = \square \rightarrow \boxed{\text{T}}$

$7867 - 1868 = \square \rightarrow \boxed{\text{H}}$

$8511 - 3216 = \square \rightarrow \boxed{\text{W}}$

$12835 - 4120 = \square \rightarrow \boxed{\text{F}}$

$4529 - 28 = \square \rightarrow \boxed{\text{G}}$

$10995 - 3190 = \square \rightarrow \boxed{\text{N}}$

$9305 - 1968 = \square \rightarrow \boxed{\text{C}}$

$3290 - 1063 = \square \rightarrow \boxed{\text{E}}$

$7975 - 1903 = \square \rightarrow \boxed{\text{I}}$

$9379 - 3202 = \square \rightarrow \boxed{\text{S}}$

$6993 - 5 = \square \rightarrow \boxed{\text{L}}$

$8876 - 653 = \square \rightarrow \boxed{\text{B}}$

$1494 - 14 = \square \rightarrow \boxed{\text{O}}$

$8247 - 2512 = \square \rightarrow \boxed{\text{K}}$

$10569 - 3177 = \square \rightarrow \boxed{\text{P}}$

$2066 - 642 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

We found rows of fish skeletons left behind by the hungry thief. Let us count them by multiplying the rows.

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

W																	
44	9	48	88	1	60	144	88	30	55	60	120	9	96	55	108	108	3

48	1	30	132	60	96	2	9	33	2	9	18	96

$11 \times 4 =$

→ W

$9 \times 12 =$

→ B

$12 \times 5 =$

→ N

$11 \times 3 =$

→ C

$5 \times 11 =$

→ A

$12 \times 8 =$

→ T

$10 \times 12 =$

→ G

$12 \times 11 =$

→ I

$9 \times 2 =$

→ S

$12 \times 12 =$

→ D

$8 \times 6 =$

→ F

$8 \times 11 =$

→ O

$3 \times 10 =$

→ R

$3 \times 3 =$

→ E

$3 \times 1 =$

→ Y

$2 \times 1 =$

→ H

$1 \times 1 =$

→ U

Scratch space:

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

The vault guards are sharing a stack of golden apples equally while they watch the security cameras.

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:

$100 \div 10 = \boxed{}$

$24 \div 8 = \boxed{}$

$72 \div 9 = \boxed{}$

$2 \div 2 = \boxed{}$

$2 \div 1 = \boxed{}$

$72 \div 12 = \boxed{}$

$77 \div 11 = \boxed{}$

$40 \div 10 = \boxed{}$

$132 \div 12 = \boxed{}$

$50 \div 10 = \boxed{}$

$108 \div 12 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain wired up a redstone trap, then spotted the treasure in the dark.
2. The villain teleported past the iron doors, then snatched a cooked salmon.
3. The villain mined straight through the floor, then sneaked past the guards like a creeper.
4. The villain glided down from the roof, then spotted the treasure in the dark.
5. The villain glided down from the roof, then snatched a cooked salmon.
6. The villain wired up a redstone trap, then leaped onto a high ledge.
7. The villain teleported past the iron doors, then shredded all the wool blocks.
8. The villain teleported past the iron doors, then leaped onto a high ledge.
9. The villain mined straight through the floor, then snatched a cooked salmon.
10. The villain wired up a redstone trap, then shredded all the wool blocks.
11. The villain wired up a redstone trap, then snatched a cooked salmon.
12. The villain wired up a redstone trap, then sneaked past the guards like a creeper.

Answer Key

The Mystery of the Diamond Yarn Vault

Culprit: DanTDM

redstone engineering · silent creeper sneaking · holds pickaxe in right hand · orange tabby fur · wet sponge

Trail: Start 21 → Clue 1 16 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE THIEF CANNOT CATCH FISH QUICKLY"

Round 1,085 to the nearest hundred = 1100 (T) · Round 541 to the nearest hundred = 500 (L) · Round 433 to the nearest ten = 430 (H) · Round 6,513 to the nearest thousand = 7000 (C) · Round 4,286 to the nearest hundred = 4300 (N) · Round 28 to the nearest ten = 30 (O) · Round 332 to the nearest hundred = 300 (E) · Round 74 to the nearest ten = 70 (K) · Round 232 to the nearest ten = 230 (Y) · Round 114 to the nearest ten = 110 (S) · Round 165 to the nearest hundred = 200 (F) · Round 888 to the nearest hundred = 900 (Q) · Round 2,891 to the nearest hundred = 2900 (A) · Round 8,781 to the nearest thousand = 9000 (U) · Round 2,274 to the nearest hundred = 2300 (I)

Clue 2 (Addition): "RIGHT HAND PICKS WERE USED ON THE STONE"

1817 + 4073 = 5890 (R) · 2365 + 3748 = 6113 (C) · 3159 + 4086 = 7245 (O) · 4016 + 4977 = 8993 (P) · 1088 + 1497 = 2585 (U) · 3138 + 2160 = 5298 (D) · 3204 + 5826 = 9030 (H) · 3987 + 2612 = 6599 (N) · 3341 + 3515 = 6856 (A) · 4935 + 3826 = 8761 (S) · 5689 + 3389 = 9078 (T) · 3498 + 2704 = 6202 (W) · 3330 + 2889 = 6219 (E) · 5168 + 2792 = 7960 (K) · 6402 + 2847 = 9249 (G) · 4068 + 2160 = 6228 (I)

Clue 3 (Subtraction): "THE THIEF HATES WET SPONGE BLOCKS"

7910 - 2606 = 5304 (T) · 7867 - 1868 = 5999 (H) · 8511 - 3216 = 5295 (W) · 12835 - 4120 = 8715 (F) · 4529 - 28 = 4501 (G) · 10995 - 3190 = 7805 (N) · 9305 - 1968 = 7337 (C) · 3290 - 1063 = 2227 (E) · 7975 - 1903 = 6072 (I) · 9379 - 3202 = 6177 (S) · 6993 - 5 = 6988 (L) · 8876 - 653 = 8223 (B) · 1494 - 14 = 1480 (O) · 8247 - 2512 = 5735 (K) · 10569 - 3177 = 7392 (P) · 2066 - 642 = 1424 (A)

Clue 4 (Multiplication facts (1-12)): "WE FOUND ORANGE TABBY FUR IN THE CHEST"

11 × 4 = 44 (W) · 9 × 12 = 108 (B) · 12 × 5 = 60 (N) · 11 × 3 = 33 (C) · 5 × 11 = 55 (A) · 12 × 8 = 96 (T) · 10 × 12 = 120 (G) · 12 × 11 = 132 (I) · 9 × 2 = 18 (S) · 12 × 12 = 144 (D) · 8 × 6 = 48 (F) · 8 × 11 = 88 (O) · 3 × 10 = 30 (R) · 3 × 3 = 9 (E) · 3 × 1 = 3 (Y) · 2 × 1 = 2 (H) · 1 × 1 = 1 (U)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → DanTDM

100 ÷ 10 = 10 · 24 ÷ 8 = 3 · 72 ÷ 9 = 8 · 2 ÷ 2 = 1 · 2 ÷ 1 = 2 · 72 ÷ 12 = 6 · 77 ÷ 11 = 7 · 40 ÷ 10 = 4 · 132 ÷ 12 = 11 · 50 ÷ 10 = 5 · 108 ÷ 12 = 9