



The Great Acorn Caper

Grade 5 math · Rounding, Fractions of a number, Order of operations, Multiplication, Division · Reading level grades 5-6

Detective: _____ Date: _____

The Golden Acorn of the Grand Burrow has vanished! A sneaky burrow bandit dug their way into the high-security vault, leaving behind a trail of woodchips and muddy pawprints. As Chief Detective, you must crack the clues, solve the math problems, and find the culprit among the forest's woodchucks.

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 burrow bandit is _____

Possible suspects

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

NAME	DIGGING STYLE	SPECIAL GEAR	WRITING PAW	FUR PATTERN	FAVORITE SNACK
Chuck Yeager	root chomping	hiking boots	left pawed	patchy chest	maple bark
Charlie Brown	root chomping	hiking boots	left pawed	patchy chest	wild berries
Chippy Nibbles	tunnel blasting	brass goggles	left pawed	striped tail	wild berries
Hazel Hazelnut	tunnel blasting	pocket compass	left pawed	patchy chest	wild berries
Timber Tom	silent clawing	hiking boots	left pawed	patchy chest	maple bark
Phil of Punxsutawney	tunnel blasting	hiking boots	left pawed	striped tail	maple bark
Clover Chester	tunnel blasting	brass goggles	right pawed	patchy chest	wild berries
Rooty McTooth	rapid scooping	velvet cape	right pawed	spotted back	maple bark
Major Maple	tunnel blasting	velvet cape	right pawed	striped tail	sweet clover
Chunky Cheeks	root chomping	velvet cape	right pawed	patchy chest	wild berries
Diggory Dirt	root chomping	hiking boots	right pawed	spotted back	sweet clover
Woody Groundhog	rapid scooping	miner helmet	left pawed	patchy chest	wild berries
Charles Barkley	gravel scooping	velvet cape	right pawed	spotted back	maple bark
Oakley Whisker	silent clawing	brass goggles	right pawed	spotted back	sweet clover
Bella Bark	tunnel blasting	pocket compass	left pawed	striped tail	wild berries
Barnaby Birch	silent clawing	miner helmet	left pawed	patchy chest	wild berries
Gravel Gordon	rapid scooping	brass goggles	right pawed	striped tail	maple bark
Buster Burrow	tunnel blasting	miner helmet	left pawed	spotted back	maple bark
Squeaks McClaw	gravel scooping	velvet cape	left pawed	patchy chest	wild berries
Gwen Greenleaf	tunnel blasting	brass goggles	left pawed	spotted back	wild berries
Pip Squeak	gravel scooping	brass goggles	right pawed	spotted back	sweet clover

CLUE 1

We found a digging machine near the vault. Its muddy digital screen is partly cracked, so we have to round the depth meter reading to the nearest ten to make sense of it.

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

Diagram illustrating the distribution of 14,000 people across 14 categories. The categories are represented by boxes, some of which are highlighted in orange and labeled 'T'.

Category	Value	Highlighted (T)
1	370	Yes
2	500	No
3	30	No
4	230	No
5	5000	No
6	290	No
7	2900	No
8	1700	No
9	370	Yes
10	2900	No
11	4300	No
12	30	No
13	20	No
14	290	No
15	4300	No
16	370	Yes
17	70	No
18	30	No
19	5000	No
20	300	No
21	5000	No
22	700	No
23	30	No
24	900	No
25	700	No
26	30	No
27	370	Yes
28	2000	No
29	5000	No
30	1100	No
31	30	No

Round 369 to the nearest ten $\rightarrow$ **T**

Round 2,880 to the nearest hundred → **D**

Round 19 to the nearest ten $\rightarrow$ **S**

Round 2,282 to the nearest thousand → **C**

Round 5,402 to the nearest thousand → **A**

Round 4,307 to the nearest hundred	→	O
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Round 234 to the nearest ten $\rightarrow$ **B**

Round 486 to the nearest hundred $\rightarrow$ **H**

Round 294 to the nearest ten $\rightarrow$ **N**

Round 70 to the nearest ten $\rightarrow$ **W**

Round 717 to the nearest hundred → **V**

Round 28 to the nearest ten → **E**

Round 889 to the nearest hundred $\rightarrow$ **L**

Round 1,054 to the nearest hundred → **P**

Round 255 to the nearest hundred $\rightarrow$ **R**

Round 1,700 to the nearest hundred $\rightarrow$

Scratch space:

CLUE 2 Fractions of a number

The thief dropped a pouch of acorns while escaping. If we calculate the fraction of acorns remaining from the total stash, we can pinpoint the escape route.

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

T																			
37	14	9	10	17	18	5	40	40	32	5	26	30	10	10	14	24	3	12	

			T								T
32	9	34	37	6	12	3	6	18	5	26	37

$2/4$ of 74 = → T	$4/8$ of 52 = → N	$2/4$ of 6 = → W
$2/4$ of 68 = → F	$5/8$ of 64 = → B	$1/10$ of 60 = → P
$2/6$ of 30 = → S	$4/5$ of 30 = → O	$8/10$ of 40 = → L
$3/5$ of 15 = → E	$1/5$ of 25 = → I	$1/8$ of 136 = → C
$4/8$ of 60 = → G	$1/3$ of 54 = → R	$1/3$ of 42 = → H
$1/5$ of 60 = → A		

Scratch space:

CLUE 3
Order of operations

The escape tunnel is marked with a series of confusing warning signs. Solve this multi-step equation using the correct order of operations to find the tunnel's true depth.

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

T																	
60	54	26	61	26	6	61	26	52	59	61	52	41	26	68	36	41	40
						T							T				
13	26	61	61	48	57	60	6	36	76	57	29	76	60	54	26		
68	6	41	41														

$45 + 5 \times 3 = \square \rightarrow$ T	$10 + 7 \times 6 = \square \rightarrow$ P	$3 + 7 \times 8 = \square \rightarrow$ U
$46 + 2 \times 4 = \square \rightarrow$ H	$14 + 4 \times 3 = \square \rightarrow$ E	$3 \times 11 - 20 = \square \rightarrow$ B
$9 \times 2 - 12 = \square \rightarrow$ A	$66 + 5 \times 2 = \square \rightarrow$ N	$6 \times 11 - 5 = \square \rightarrow$ R
$5 \times 8 - 4 = \square \rightarrow$ I	$41 + 4 \times 4 = \square \rightarrow$ S	$9 + 4 \times 8 = \square \rightarrow$ L
$11 \times 3 - 4 = \square \rightarrow$ O	$5 \times 9 - 5 = \square \rightarrow$ D	$7 \times 10 - 2 = \square \rightarrow$ W
$5 \times 12 - 12 = \square \rightarrow$ Y		

Scratch space:

CLUE 4
Multiplication facts (1-12)

The bandit left neat rows of chew marks on the support beams. We can find the total number of woodchips by multiplying the rows and columns of marks.

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

A		A															A	
12	15	12	70	72	3	18	32	11	66	72	100	11	144	15	49	12	108	
		A							A									
108	8	12	42	42	132	20	54	8	12	66	54	54	70					

$3 \times 4 = \square \rightarrow \text{A}$

$1 \times 8 = \square \rightarrow \text{N}$

$12 \times 12 = \square \rightarrow \text{M}$

$10 \times 7 = \square \rightarrow \text{T}$

$9 \times 12 = \square \rightarrow \text{S}$

$8 \times 9 = \square \rightarrow \text{C}$

$8 \times 4 = \square \rightarrow \text{F}$

$7 \times 7 = \square \rightarrow \text{W}$

$5 \times 3 = \square \rightarrow \text{P}$

$3 \times 1 = \square \rightarrow \text{H}$

$6 \times 3 = \square \rightarrow \text{Y}$

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

$12 \times 11 = \square \rightarrow \text{E}$

$9 \times 6 = \square \rightarrow \text{O}$

$4 \times 5 = \square \rightarrow \text{D}$

$7 \times 6 = \square \rightarrow \text{G}$

$6 \times 11 = \square \rightarrow \text{R}$

$1 \times 11 = \square \rightarrow \text{U}$

Scratch space:

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

A heavy crate of evidence paw-prints was recovered from the mud. Let's divide these prints equally among our five tracking squads to see what they find.

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:

$44 \div 11 = \boxed{}$

$10 \div 10 = \boxed{}$

$6 \div 1 = \boxed{}$

$96 \div 8 = \boxed{}$

$77 \div 7 = \boxed{}$

$25 \div 5 = \boxed{}$

$10 \div 5 = \boxed{}$

$56 \div 8 = \boxed{}$

$60 \div 6 = \boxed{}$

$33 \div 11 = \boxed{}$

$48 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain chomped through the thick tree roots, then slipped past the sleeping guards.
2. The villain shoveled aside the heavy gravel, then vanished down the escape hatch.
3. The villain shoveled aside the heavy gravel, then dashed into the safety of the woods.
4. The villain scratched quietly through the floor, then scurried away into the deep tunnels.
5. The villain scratched quietly through the floor, then dashed into the safety of the woods.
6. The villain blasted through the dirt wall, then dashed into the safety of the woods.
7. The villain chomped through the thick tree roots, then vanished down the escape hatch.
8. The villain blasted through the dirt wall, then slipped past the sleeping guards.
9. The villain scooped up a massive pile of soil, then scurried away into the deep tunnels.
10. The villain scooped up a massive pile of soil, then escaped with the shiny treasure.
11. The villain chomped through the thick tree roots, then dashed into the safety of the woods.
12. The villain scratched quietly through the floor, then slipped past the sleeping guards.

Answer Key

The Great Acorn Caper

Culprit: Woody Groundhog

rapid scooping · miner helmet · left pawed · patchy chest · wild berries

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

Clue 1 (Rounding): "THE BANDIT DOES NOT WEAR A VELVET CAPE"

Round 369 to the nearest ten = 370 (T) · Round 2,880 to the nearest hundred = 2900 (D) · Round 19 to the nearest ten = 20 (S) · Round 2,282 to the nearest thousand = 2000 (C) · Round 5,402 to the nearest thousand = 5000 (A) · Round 4,307 to the nearest hundred = 4300 (O) · Round 234 to the nearest ten = 230 (B) · Round 486 to the nearest hundred = 500 (H) · Round 294 to the nearest ten = 290 (N) · Round 70 to the nearest ten = 70 (W) · Round 717 to the nearest hundred = 700 (V) · Round 28 to the nearest ten = 30 (E) · Round 889 to the nearest hundred = 900 (L) · Round 1,054 to the nearest hundred = 1100 (P) · Round 255 to the nearest hundred = 300 (R) · Round 1,700 to the nearest hundred = 1700 (I)

Clue 2 (Fractions of a number): "THE SCRIBBLINGS SHOW A LEFT PAW PRINT"

$\frac{2}{4}$ of 74 = 37 (T) · $\frac{4}{8}$ of 52 = 26 (N) · $\frac{2}{4}$ of 6 = 3 (W) · $\frac{2}{4}$ of 68 = 34 (F) · $\frac{5}{8}$ of 64 = 40 (B) · $\frac{1}{10}$ of 60 = 6 (P) · $\frac{2}{6}$ of 30 = 10 (S) · $\frac{4}{5}$ of 30 = 24 (O) · $\frac{8}{10}$ of 40 = 32 (L) · $\frac{3}{5}$ of 15 = 9 (E) · $\frac{1}{5}$ of 25 = 5 (I) · $\frac{1}{8}$ of 136 = 17 (C) · $\frac{4}{8}$ of 60 = 30 (G) · $\frac{1}{3}$ of 54 = 18 (R) · $\frac{1}{3}$ of 42 = 14 (H) · $\frac{1}{5}$ of 60 = 12 (A)

Clue 3 (Order of operations): "THERE ARE PURPLE WILD BERRY STAINS ON THE WALL"

$45 + 5 \times 3 = 60$ (T) · $10 + 7 \times 6 = 52$ (P) · $3 + 7 \times 8 = 59$ (U) · $46 + 2 \times 4 = 54$ (H) · $14 + 4 \times 3 = 26$ (E) · $3 \times 11 - 20 = 13$ (B) · $9 \times 2 - 12 = 6$ (A) · $66 + 5 \times 2 = 76$ (N) · $6 \times 11 - 5 = 61$ (R) · $5 \times 8 - 4 = 36$ (I) · $41 + 4 \times 4 = 57$ (S) · $9 + 4 \times 8 = 41$ (L) · $11 \times 3 - 4 = 29$ (O) · $5 \times 9 - 5 = 40$ (D) · $7 \times 10 - 2 = 68$ (W) · $5 \times 12 - 12 = 48$ (Y)

Clue 4 (Multiplication facts (1-12)): "A PATCHY FUR CLUMP WAS SNAGGED ON A ROOT"

$3 \times 4 = 12$ (A) · $1 \times 8 = 8$ (N) · $12 \times 12 = 144$ (M) · $10 \times 7 = 70$ (T) · $9 \times 12 = 108$ (S) · $8 \times 9 = 72$ (C) · $8 \times 4 = 32$ (F) · $7 \times 7 = 49$ (W) · $5 \times 3 = 15$ (P) · $3 \times 1 = 3$ (H) · $6 \times 3 = 18$ (Y) · $10 \times 10 = 100$ (L) · $12 \times 11 = 132$ (E) · $9 \times 6 = 54$ (O) · $4 \times 5 = 20$ (D) · $7 \times 6 = 42$ (G) · $6 \times 11 = 66$ (R) · $1 \times 11 = 11$ (U)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Woody Groundhog

$44 \div 11 = 4$ · $10 \div 10 = 1$ · $6 \div 1 = 6$ · $96 \div 8 = 12$ · $77 \div 7 = 11$ · $25 \div 5 = 5$ · $10 \div 5 = 2$ · $56 \div 8 = 7$ · $60 \div 6 = 10$ · $33 \div 11 = 3$ · $48 \div 6 = 8$