The Mystery of the Griefed Fortress

Grade 4 math · Multiplication, Bar models, Word problems, Rounding, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone destroyed the Great Block Citadel right before the annual Crafting Contest! Work with Master Builder Sam to solve the math clues and uncover which suspect griefed the citadel.

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 Fortress Griefing Villain is _____

Possible suspects

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

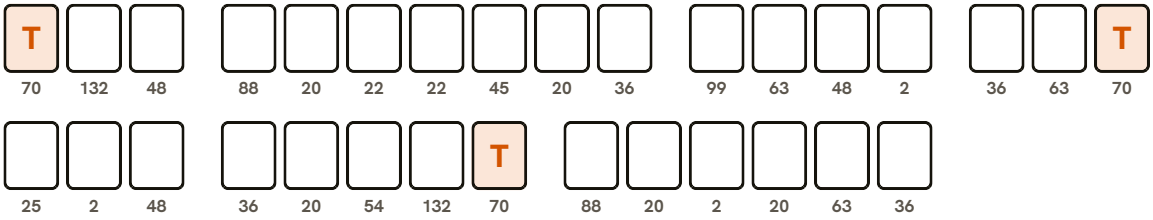
NAME	PRIMARY TOOL	POTION GEAR	MINING HAND	HEADWEAR	SCARE FACTOR
ZombieZack	Diamond Pick	Totem of Undying	Right Handed	Ender Helmet	Splash Potion
BlockyBob	Nether Star	Swiftness Potion	Right Handed	Creeperskin Cap	Splash Potion
BuilderBen	Nether Star	Night Vision	Right Handed	Ender Helmet	Splash Potion
Steve	Elytra Wings	Totem of Undying	Left Handed	Ender Helmet	Splash Potion
Stampy	Nether Star	Fire Resistance	Right Handed	Ender Helmet	Water Bucket
Alex	Elytra Wings	Night Vision	Right Handed	Ender Helmet	Loud Bell
CobbleSam	Elytra Wings	Night Vision	Right Handed	Creeperskin Cap	Water Bucket
RedstoneRita	Nether Star	Totem of Undying	Right Handed	Ender Helmet	Loud Bell
PixelPete	Elytra Wings	Turtle Helmet	Right Handed	Pumpkin Mask	Loud Bell
CreeperChris	Redstone Torch	Night Vision	Right Handed	Creeperskin Cap	Water Bucket
Aphmau	Golden Apple	Swiftness Potion	Right Handed	Creeperskin Cap	Splash Potion
MinerMike	Diamond Pick	Totem of Undying	Right Handed	Creeperskin Cap	Water Bucket
Grian	Redstone Torch	Swiftness Potion	Left Handed	Creeperskin Cap	Loud Bell
DiamondDaisy	Nether Star	Turtle Helmet	Right Handed	Ender Helmet	Splash Potion
LavaLucy	Diamond Pick	Turtle Helmet	Right Handed	Creeperskin Cap	Splash Potion
Mumbo	Golden Apple	Swiftness Potion	Left Handed	Pumpkin Mask	Water Bucket
VoxelViolet	Redstone Torch	Totem of Undying	Left Handed	Creeperskin Cap	Splash Potion
CaptainSparklez	Golden Apple	Swiftness Potion	Right Handed	Pumpkin Mask	Water Bucket
EnderEmma	Golden Apple	Turtle Helmet	Right Handed	Creeperskin Cap	Water Bucket
CraftyClaire	Diamond Pick	Turtle Helmet	Right Handed	Ender Helmet	Splash Potion
GravelGreg	Redstone Torch	Swiftness Potion	Right Handed	Ender Helmet	Splash Potion

make your own at mathcrackers.com

CLUE 1 Multiplication facts (1-12)

> We found neat rows of iron blocks dropped near the damaged wall. Multiply the rows to decode the first clue.

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



10 × 7 = ☐ → T	11 × 12 = ☐ → H	2 × 11 = ☐ → L
9 × 5 = ☐ → A	5 × 5 = ☐ → U	9 × 6 = ☐ → G	12 × 3 = ☐ → N
1 × 2 = ☐ → S	8 × 11 = ☐ → V	8 × 6 = ☐ → E	5 × 4 = ☐ → I
9 × 11 = ☐ → D	9 × 7 = ☐ → O		

Scratch space:

CLUE 2 Bar model word problems

The detective drew bar models to compare two long lines of redstone dust found on the path.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R								D	E	D
8	130	142	118	124	118	15	111			

.

Pixel Builder has 96 iron ingots, packed 12 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → R

One group collected 51 iron ingots and another group collected 67 iron ingots. How many iron ingots in all?

draw a bar model

Answer: ☐ → H

Pixel Builder used 1/2 of the golden carrots on the first day. The other 62 golden carrots were used the next day. How many golden carrots were there in all?

draw a bar model

Answer: ☐ → T

Pixel Builder has 5 times as many diamonds as a teammate. The teammate has 3 diamonds. How many diamonds does Pixel Builder have?

draw a bar model

Answer: ☐ → A

Pixel Builder used 2/5 of the iron ingots on the first day. The other 78 iron ingots were used the next day. How many iron ingots were there in all?

draw a bar model

Answer: ☐ → I

There were 164 redstone dust in all. 22 redstone dust were used. How many redstone dust are left?

draw a bar model

Answer: ☐ → G

The red team has 133 redstone dust and the blue team has 22 redstone dust. How many more redstone dust does the red team have?

draw a bar model

Answer: ☐ → N

CLUE 3 Word problems

The town merchant lost craft supplies during the raid. Solve these word problems to figure out what was taken.

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

Someone scared the villain off with

S				S					I		N
61	12	40	60	61	73	12	39	65		39	

.

There were 93 redstone dust. 32 were used up. How many redstone dust are left?

Answer: ☐ → **S**

Pixel Builder found 12 diamonds yesterday and 28 more today. How many diamonds in all?

Answer: ☐ → **L**

Pixel Builder found 2 iron ingots yesterday and 10 more today. How many iron ingots in all?

Answer: ☐ → **P**

Pixel Builder found 38 golden carrots yesterday and 35 more today. How many golden carrots in all?

Answer: ☐ → **H**

There were 68 golden carrots. 29 were used up. How many golden carrots are left?

Answer: ☐ → **O**

Pixel Builder lined up 10 rows of 6 diamonds. How many diamonds in all?

Answer: ☐ → **A**

There were 96 golden carrots. 31 were used up. How many golden carrots are left?

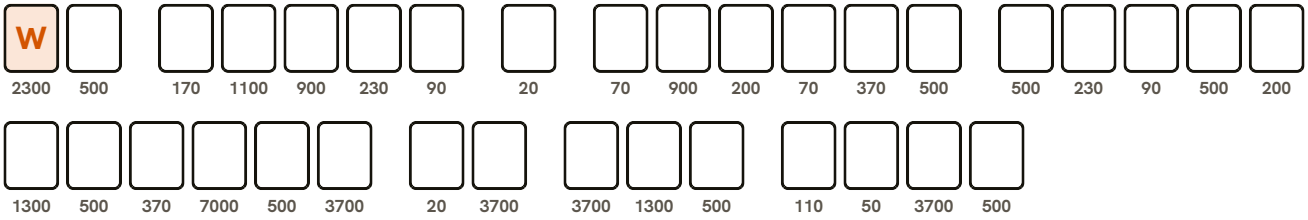
Answer: ☐ → **T**

Scratch space:

CLUE 4 Rounding

The server minimap only displays player distances rounded to the nearest ten blocks.

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



Round 2,266 to the nearest hundred ☐ → **W**

Round 456 to the nearest hundred ☐ → **E**

Round 158 to the nearest hundred ☐ → **R**

Round 17 to the nearest ten ☐ → **A**

Round 231 to the nearest ten ☐ → **N**

Round 1,279 to the nearest hundred ☐ → **H**

Round 53 to the nearest ten ☐ → **I**

Round 6,895 to the nearest thousand ☐ → **M**

Round 66 to the nearest ten ☐ → **P**

Round 371 to the nearest ten ☐ → **L**

Round 1,098 to the nearest hundred ☐ → **O**

Round 107 to the nearest ten ☐ → **S**

Round 882 to the nearest hundred ☐ → **U**

Round 3,675 to the nearest hundred ☐ → **T**

Round 88 to the nearest ten ☐ → **D**

Round 168 to the nearest ten ☐ → **F**

Scratch space:

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

> We gathered all the recovered chest loot and divided it into equal piles to decode the final 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:

3 ÷ 3 = ☐	12 ÷ 3 = ☐	14 ÷ 2 = ☐	12 ÷ 6 = ☐	99 ÷ 11 = ☐
60 ÷ 10 = ☐	60 ÷ 12 = ☐	12 ÷ 1 = ☐	132 ÷ 12 = ☐	110 ÷ 11 = ☐
56 ÷ 7 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain swung a diamond pick, then donned a turtle helmet.
2. The villain placed a redstone torch, then turned on night vision.
3. The villain swung a diamond pick, then held a totem of undying.
4. The villain activated a nether star, then donned a turtle helmet.
5. The villain swung a diamond pick, then turned on night vision.
6. The villain glided with elytra wings, then donned a turtle helmet.
7. The villain placed a redstone torch, then drank swiftness potion.
8. The villain activated a nether star, then turned on night vision.
9. The villain activated a nether star, then applied fire resistance.
10. The villain activated a nether star, then drank swiftness potion.
11. The villain placed a redstone torch, then applied fire resistance.
12. The villain ate a golden apple, then held a totem of undying.

TEACHER / PARENT

Answer Key

The Mystery of the Griefed Fortress

Culprit: ZombieZack

Diamond Pick · Totem of Undying · Right Handed · Ender Helmet · Splash Potion

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE NIGHT VISION"

10 × 7 = 70 (T) · 11 × 12 = 132 (H) · 2 × 11 = 22 (L) · 9 × 5 = 45 (A) · 5 × 5 = 25 (U) · 9 × 6 = 54 (G) · 12 × 3 = 36 (N) · 1 × 2 = 2 (S) · 8 × 11 = 88 (V) · 8 × 6 = 48 (E) · 5 × 4 = 20 (I) · 9 × 11 = 99 (D) · 9 × 7 = 63 (O)

Clue 2 (Bar model word problems): "RIGHT HANDED"

Pixel Builder has 96 iron ingots, packed 12 to a bag. How many bags can be filled? = 8 (R) · One group collected 51 iron ingots and another group collected 67 iron ingots. How many iron ingots in all? = 118 (H) · Pixel Builder used 1/2 of the golden carrots on the first day. The other 62 golden carrots were used the next day. How many golden carrots were there in all? = 124 (T) · Pixel Builder has 5 times as many diamonds as a teammate. The teammate has 3 diamonds. How many diamonds does Pixel Builder have? = 15 (A) · Pixel Builder used 2/5 of the iron ingots on the first day. The other 78 iron ingots were used the next day. How many iron ingots were there in all? = 130 (I) · There were 164 redstone dust in all. 22 redstone dust were used. How many redstone dust are left? = 142 (G) · The red team has 133 redstone dust and the blue team has 22 redstone dust. How many more redstone dust does the red team have? = 111 (N)

Clue 3 (Word problems): "SPLASH POTION"

There were 93 redstone dust. 32 were used up. How many redstone dust are left? = 61 (S) · Pixel Builder found 12 diamonds yesterday and 28 more today. How many diamonds in all? = 40 (L) · Pixel Builder found 2 iron ingots yesterday and 10 more today. How many iron ingots in all? = 12 (P) · Pixel Builder found 38 golden carrots yesterday and 35 more today. How many golden carrots in all? = 73 (H) · There were 68 golden carrots. 29 were used up. How many golden carrots are left? = 39 (O) · Pixel Builder lined up 10 rows of 6 diamonds. How many diamonds in all? = 60 (A) · There were 96 golden carrots. 31 were used up. How many golden carrots are left? = 65 (T)

Clue 4 (Rounding): "WE FOUND A PURPLE ENDER HELMET AT THE SITE"

Round 2,266 to the nearest hundred = 2300 (W) · Round 456 to the nearest hundred = 500 (E) · Round 158 to the nearest hundred = 200 (R) · Round 17 to the nearest ten = 20 (A) · Round 231 to the nearest ten = 230 (N) · Round 1,279 to the nearest hundred = 1300 (H) · Round 53 to the nearest ten = 50 (I) · Round 6,895 to the nearest thousand = 7000 (M) · Round 66 to the nearest ten = 70 (P) · Round 371 to the nearest ten = 370 (L) · Round 1,098 to the nearest hundred = 1100 (O) · Round 107 to the nearest ten = 110 (S) · Round 882 to the nearest hundred = 900 (U) · Round 3,675 to the nearest hundred = 3700 (T) · Round 88 to the nearest ten = 90 (D) · Round 168 to the nearest ten = 170 (F)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → ZombieZack

3 ÷ 3 = 1 · 12 ÷ 3 = 4 · 14 ÷ 2 = 7 · 12 ÷ 6 = 2 · 99 ÷ 11 = 9 · 60 ÷ 10 = 6 · 60 ÷ 12 = 5 · 12 ÷ 1 = 12 · 132 ÷ 12 = 11 · 110 ÷ 11 = 10 · 56 ÷ 7 = 8