

Answer Key - Ransomware Attack - October 15th, 2020

A word from our creators:

Some puzzles were tougher than others, but hopefully you were able to enjoy yourselves. Thank you all for playing with us and we hope these Answer Keys will help relieve any questions you had about the puzzles. We'll continue to work on new Online Escape Rooms for you, so stay tuned in to our website at tpl.ca/teens/programs-and-classes.jsp!

Puzzle 1: Padlocked Package

Answer: 15

When the time on a clock reads "Half past six", the minute hand is at the 30-minute mark (which is at the number "6"). The hour hand is resting in the middle between the numbers "6" and "7" on the clock because it's 6:30. The answer you must find is the angle between the minute hand and the hour hand. Remember a clock face is just a circle, and that any circle is 360 degrees. The clock face can also be divided into 12 equal pieces, like a pizza, by using the numbers on the clock (i.e. 1, 2, 3, 4, 5, 6, 7...etc). So each equal piece is 360 degrees divided by 12, which is equal to 30 degrees. So if a single piece is 30 degrees and the minute hand and hour hand of the clock are separated by HALF a piece (between 6 and 7), then the difference in the angle is 30 degrees divided by 2, which is 15!

Puzzle 2: Crossword Square

Answer: exile

The Across answers are: 1. Fall. 2. LXII. 3. Elmo. 4. Aeon.

The Down answers are: 1. Flea. 2. Axle. 3. Limo. 4. Lion.

Once you've solved the crossword, the letters in the green boxes are LXIEE. Unscrambling those letters gives you the answer!

Puzzle 3: Emoji Poetry

Answer: winnie the pooh

If you translate the emoji poem into words, it might read:

"Roses are red,
I love money.
Pick one book,
Bear who loves honey."

Okay, it's not a masterpiece, but you should be familiar with a bear who loves honey and has many books written about him - Winnie the Pooh!

Puzzle 4: Ransom Equation

Answer: \$50,000,000

It's time for some math! First we have to solve for the dollar bill, which we will call x for simplicity.

Our formula is $3x - 8 = 2x - 3$. The first thing we'll do is move the x 's to one side and the numerals to the other. Remember that whatever we do to one side of the equation must be done to the other, so:

$$(3x - 2x) - (8 + 8) = (2x - 2x) - (3 + 8)$$

$$x = 5$$

We then plug "5" into the ransom formula. $10^7 = 10,000,000$, so $5 \times 10,000,000 = \$50,000,000$.

Puzzle 5: Triangle Code

Answer: 789 yonge

Multiple triangles can be found within these clusters of triangles! You can find seven triangles in the first cluster, eight in the second and nine in the third. It might take a moment to find them all, but they are there! That gets us the first part of the address we're looking for - 789.

Triangles are also used to spell out "yung," which should be more familiar to people as Yonge St if you're from Toronto or the Greater Toronto Area. Therefore our drop-off address is "789 yonge," which is also where you can find the Toronto Reference Library.

Puzzle 6: Tetris VPN

Answer: 107

Hopefully this wasn't from an actual game of Tetris, because this game is not going well. If you're not familiar with Tetris, pieces can be rotated as they fall so they fit in better with pieces at the bottom. In this case, the falling piece has to be rotated three times clockwise so it falls into the middle and makes a 0 with the piece that is already there. Looking at only the pieces with that colour, we get the answer of 107.

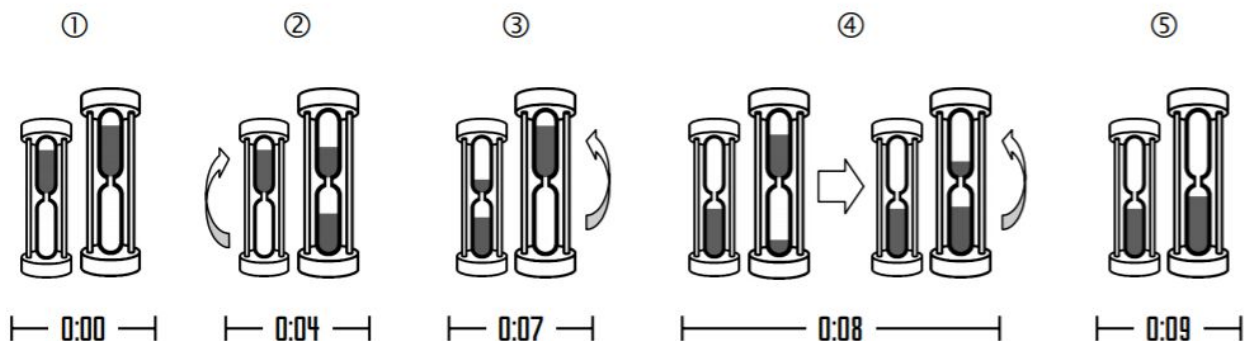
Puzzle 7: Hourglass Shutdown

Answer: 32

The only way to measure exactly 9 minutes is by using both hourglasses at the same time.

1. Flip both hourglasses over. When the 4-min hourglass is empty, flip it over (the 7-min hourglass still has 3 minutes left in the top).
2. When the 7-min hourglass is empty, flip it over (there is now 1 minute left in the top of the 4-min hourglass).
3. When the 4-min hourglass is empty for the second time, the 7-min hourglass has 1 minute worth of sand in the bottom half. Flip it over so there is now 1 minute in the top. When the 7-min hourglass empties, 9 minutes have elapsed.

Step	Elapsed Time	4 Min Timer	7 Min Timer
①	0:00	FLIP	FLIP
②	0:04	FLIP	3 min left
③	0:07	1 min left	FLIP
④	0:08		FLIP (1 min now in top)
④	0:09		EMPTY



The answer is the # of times you're flipping the 7-min hourglass as the first digit, and the # of times you're flipping the 4-min hourglass as the second digit. So in total, including the first flip, you've flipped the 7-min hourglass 3 times and the 4-min hourglass 2 times, so the answer is "32".

Puzzle 8: Binary Paskey

Answer: everest

If you use the binary alphabet to decode the letters for each line, and each line represents a word, you'll find the riddle hidden within the code reads: "the tallest mountain before everest was found". This is a trick question, because the tallest mountain before everest was discovered is still Everest, even if no one had discovered it yet, it still existed. So the passkey is "everest".