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: Office Riddle

Answer: gym

Have you ever run laps in gym class? Played on a basketball court while your shoes squeaked?

Puzzle 2: Ohhhhh, a Gym!

Answer: 42

Let's break down each term: a trey is a three-point shot in basketball, a grand slam is four runs in baseball, a FG (field goal) is three points in football, love means zero in tennis, a TD (touchdown) is six points in football (no, it's not seven - you have to kick an extra point to get to seven!), a turkey is three strikes in a row in bowling, a bogey is one stroke over par (+1) in gold and a hat trick is three goals in hockey.

So what does our equation look like?

$$= \frac{3 \times 4 \times (3-0)+6}{3+1-3}$$

$$= \frac{42}{1}$$

$$= 42$$

Puzzle 3: Music to My Ears

Answer: geography

This one is a little easier if you know how to read music, but the first image will help if you don't. Music notes go from A to G and then repeat. The first image shows the notes in the spaces, but the lines are also notes. So the line between the F and A is the note G, the line between A and C is a B, etc. That means the line below the F is also an E, though the image does also show a higher E.

If you transpose the notes from the musical composition, you get GEE/AA/GA/FEE. If you say that out loud (or in your head), it might start to sound like the word "geography". Look up "mad gab phrases" for more examples of similar puzzles!

Puzzle 4: From Hard Locks to Hard Rocks

Answer: mathematics room

Let's break down the moves one by one:

1. Start in the Eleventh Grade room (⬠). Following the arrows brings you to the Drama room.
2. The ⇄ tells you to head south and ignore the arrows. The next room with a symbol is the classroom with ∴.
3. Following the instructions for the ∴ symbol, the room symmetrical to this one has ⊡ inside.
4. The ⊡ tells us the Library is not the final room.
5. Exiting this room and following the arrow outside takes you to the Twelfth Grade Room.
6. The ↺ takes us back to the start. The room at the end of the hallway is the Music Room.
7. There is another upside down symbol to match the ⅄. That is the ∨.
8. The fourth room from there is the Science Lab. The ± tells you to follow the arrow outside.
9. That leads to the Mathematics room!

Puzzle 5: Mrs. DeVizion's Classroom

Answer: The answer is "6"

The trick to this is multiplying the bottom two numbers in each grouping. Once you do this, you can take a look at the product which will be exactly the top numbers without the line between them.
8x3=24
9x7=63

2x7=14
6x6=36

Puzzle 6: Mr. Shaker's Classroom

Answer: The answer is the letter "n"

What can you throw out of "window" to get a grieving wife? Well, the absence of the letter "n" makes "widow"!
What can you place in "door" to save a life? Well, adding the letter "n" makes donor, someone who can save a life in the right circumstances!

Puzzle 7: Bathroom Break?!

Answer: 28.82, rounded to 29

Use the following equation and solve for x (the number of seconds it takes to fill the unplugged sink with both taps on before it starts to overflow): $\frac{7x}{35} + \frac{7x}{49} - \frac{7x}{70} = 7$

The 7 comes from the total capacity of the sink (seven litres). Divide the capacity by the number of seconds for the hot and cold tap to get the seconds-per-litre rate at which each tap fills the sink (0.2L/sec and 0.14L/sec respectively). Add these numbers together. Subtract the rate of the drain (again, divide the sink capacity over the time it takes the sink to drain to get 0.1L/sec) to get the net flow rate (0.24L/sec). Divide 7 by the net flow rate 0.24L/sec to find out how many seconds it takes the sink to drain before overflowing (29 when rounded to the nearest whole number).

Puzzle 8: Staff Only

Answer: 231.

Family member #2 (FM#2) is used in both parts of this puzzle, so trying out an age for them will lead you to figure out their order from youngest to oldest.

If you think FM#2 is 10 years old, that would mean they have been alive for 120 months (10 years x 12 months/year = 120 months). That would mean FM#1 is 120 years old!

If FM#2 is 10 years old, they have been alive for 3,650 days (10 years x 365 days/year = 3,650 days), so FM#3 has been alive 3,650 weeks. To find out their age, we divide 3,650 weeks by 52 weeks/year to get 70.2 years.

So if FM#2 is 10, FM#3 is 70 and FM#1 is 120. That is the order from youngest to oldest!

For bonus marks, figure out their ages so it adds up to 140 now that you know who is youngest and oldest!