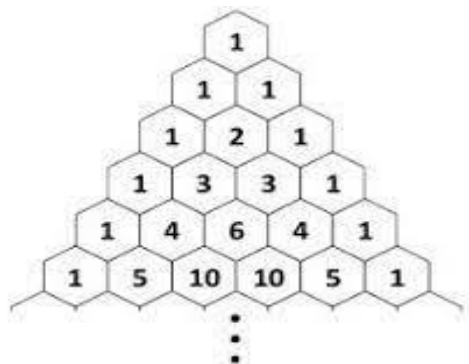


CCT Weekly Practice Mathematics

Unit 1 – Pascal’s triangle



Source: www.livescience.com

Observe the given figure and the pattern of numbers in each row. The first row from the top contains a single numeral i.e., 1. The second row contains two numerals and subsequently the n^{th} row will contain ‘n’ numerals. This triangular pattern of numbers is called Pascal’s triangle. It can have infinite number of rows.

Source of questions: Centre for Teacher Accreditation (CENTA®) – m.centa.org

Question 1

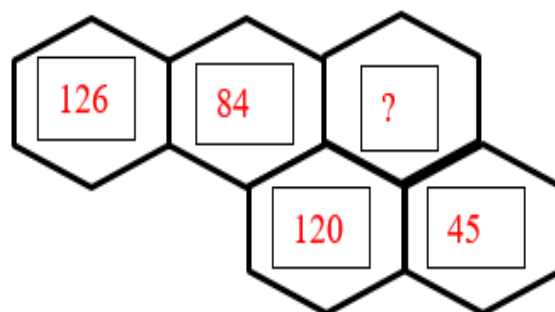
The mean of all the numerals in the 7th row will be close to_____

- a) 6
- b) 7
- c) 9
- d) 10

Question 2

A random region of the Pascal’s triangle is magnified. What will replace the question mark in this region?

- a) 36
- b) 75
- c) 126
- d) 204



Unit 2 – Movie budget

Release Date	Movie	Production budget	US gross	Worldwide gross
April 23,2019	Avengers : Endgame	\$400,000,000	\$858,373,000	\$2,797,800,564
May 20,2011	Pirates of the Caribbean: On Stranger Tides	\$379,000,000	\$241,071,802	\$1,045,713,802
April 22,2015	Avengers: Age of Ultron	\$365,000,000	\$459,005,868	\$1,395,316,979
December 16,2020	Star Wars: The Force Awakens	\$306,000,000	\$936,662,225	\$2,065,369,276
April 25,2018	Avengers: Infinity War	\$300,000,000	\$678,815,482	\$2,044,540,523
May 24,2007	Pirates of the Caribbean: At World's End	\$300,000,000	\$309,420,425	\$960,996,492
November 13,2017	Justice League	\$300,000,000	\$229,024,295	\$655,945,209

Source: www.the-numbers.com

Refer to this table to answer the questions that follow.

Question 3

What is an approximate median value of profit for the given movies?

- a) \$ 1.4 billion
- b) \$ 1.0 billion
- c) \$ 1.2 billion
- d) \$ 1.7 billion

Question 4

From US media's point of view, how many movies have crossed the 1 billion mark in foreign gross?

- a) 5
- b) 4
- c) 3
- d) 2

Question 5

Excellence factor for a particular film in a movie franchise is defined by the ratio of US gross in a given year to the US gross in the previous release. It is considered to be a measure of popularity. Based on all given information, which of the following is more popular?

- a) Avengers: Endgame
- b) Avengers: Infinity War
- c) Avengers: Age of Ultron
- d) Pirates of the Caribbean: On Stranger Tides

Source of questions:

Centre for Teacher Accreditation (CENTA®) – m.centa.org

CCT Weekly Practice Mathematics

Unit 1 – Pascal’s triangle

1. (c) The numbers in the 7th row are 1,6,15,20,15,6,1. The average is close to 9.
2. (a) Any entry in a Pascal’s triangle is calculated by adding the entries in the adjacent cells lying directly above it. 84 and 36 needs to be added to get 120.

Unit 2 – Movie budget

3. (d) Profit = Worldwide gross (revenue) – Production budget. When all seven values of profit are taken and arranged in order, the middle value (median) is \$ 1.7 billion.
4. (c) Avengers: Endgame, Star Wars: The Force Awakens and Avengers: Infinity War have crossed the 1 billion mark. Foreign gross = Worldwide gross – US gross.
5. (b) The excellence factor for the movie is the highest among all with 1.47.

Source of questions:

Centre for Teacher Accreditation (CENTA[®]) – m.centa.org