

Writing Linear and Exponential Functions from a Context

The cost of joining a book of the month club is \$25 and then each book can be bought for the discounted price of \$8.

1. List the total cost of purchasing 1 book, 2 books, 3 books.
2. Identify the sequence of costs of books as arithmetic or geometric.
3. Write a formula (either recursive or explicit) for computing the cost of joining the club and buying n books.
4. Find the cost of joining the club and buying 32 books.

Jerry finds an anti-bullying post on Facebook. He likes it and decides to repost it. His friends like it and many of them repost it too. As this continues, the number of people who have seen the post triples each hour.

5. List the total number of people who have seen the post each hour, starting with one person, Jerry, in the first hour.
6. Identify the sequence of number of people who have seen the post as arithmetic or geometric.
7. Write a formula (either recursive or explicit) for computing the total number of people who have seen the post for each hour.
8. Find the number of people who have seen the post after 12 hours

The cost of going on rides at the San Diego County Fair includes an entrance fee of \$8 and then \$3 for each ride.

9. List the total cost of going to the fair and riding 1 ride, 2 rides, 3 rides.

10. Identify the sequence of costs of rides as arithmetic or geometric.

11. Write a formula (either recursive or explicit) for computing the cost of going to the fair and riding n rides.

12. Find the cost of going to the fair and riding 13 rides.

Writing Linear and Exponential Functions from a Context

The cost of joining a book of the month club is \$25 and then each book can be bought for the discounted price of \$8.

1. List the total cost of purchasing 1 book, 2 books, 3 books.
1 book: \$33
2 books: \$41
3 books: \$49
2. Identify the sequence of costs of books as arithmetic or geometric.
Arithmetic
3. Write a formula (either recursive or explicit) for computing the cost of joining the club and buying n books.
 $f(n) = 25 + 8n$
4. Find the cost of joining the club and buying 32 books.
\$281

Jerry finds an anti-bullying post on Facebook. He likes it and decides to repost it. His friends like it and many of them repost it too. As this continues, the number of people who have seen the post triples each hour.

5. List the total number of people who have seen the post each hour, starting with one person, Jerry, in the first hour.
0 hours: 1, 1 hour: 3, 2 hours: 9, 3 hours: 27, 4 hours: 81
6. Identify the sequence of number of people who have seen the post as arithmetic or geometric.
Geometric
7. Write a formula (either recursive or explicit) for computing the total number of people who have seen the post for each hour.
 $f(n) = 3^n$
8. Find the number of people who have seen the post after 12 hours
531441

The cost of going on rides at the San Diego County Fair includes an entrance fee of \$8 and then \$3 for each ride.

9. List the total cost of going to the fair and riding 1 ride, 2 rides, 3 rides.

1 ride: \$11, 2 rides: \$14, 3 rides: \$17

10. Identify the sequence of costs of rides as arithmetic or geometric.

Arithmetic

11. Write a formula (either recursive or explicit) for computing the cost of going to the fair and riding n rides.

$f(n) = 8 + 3n$

12. Find the cost of going to the fair and riding 13 rides.

\$47