

1. The seats in a local theater are arranged so that there are 64 seats in the first row, 62 seats in the second row, 60 seats in the third row, and so on for 24 rows altogether. How many seats are in the last row? How many seats are in the theater?
2. In a stack of bricks, each layer contains one more brick than the layer above. The top layer consists of a single brick. If there are 105 bricks in the stack, how many layers are there?
3. The rungs of a ladder are made of wood, and the bottom rung is 60 cm long. Each additional rung is $\frac{3}{4}$ cm shorter than the one below it. If the ladder has 21 rungs, how much wood (in meters) was used to make them?
4. Fred is on a sled coasting down a snowy hill. He covers 4 feet in the first second, 7 feet in the next second, 10 feet in the third second, and in general, 3 feet more each second than the previous second. If Fred arrives at the bottom of the hill at the end of 12 seconds, how far did he coast? How many feet did he cover in the last second?
5. A basketball is rolled down a steep hill. It travels 24 meters during the first second, 48 meters during the next second, 72 meters during the third second, and in general, $24n$ meters during the n th second. How long will it take the basketball to roll 1080 meters?
6. At a steel-making plant, $8r + 15$ beams are stacked in such a way that 8 beams are in the top layer of r -layer stack. How many beams are in the stack, if each layer contains one more than the layer immediately above?
7. A building contractor agrees to pay a fine for all the days he is late completing a job. The penalty for being one day late is set at \$45. Each day after that, the penalty is increased by \$10, and it is cumulative! If the contractor's penalty turns out to be \$1725, how many days late is he in completing the job?
8. In a lottery, the prize money is to be divided among 10 lucky entrants. The smallest reward is \$15. Every other person receives a fixed amount more than the previous person. If the top winner receives \$420, how much total prize money was rewarded?
9. Skydiving Sarah jumps from an airplane. Disregarding air friction, she will fall about 16 feet during the first second, 48 feet the next second, 80 feet the third second, and so on. How many feet will she fall during the 10th second?
10. Once a month Hannah deposits money into her savings account, putting 75¢ more into the account each month than she put in the previous month. After 8 years, excluding interest, Hannah had accumulated \$3540. How much money did Hannah deposit in the first and last months?
11. Every week of the year, Mr. Lucas tithed \$1.50 more to his church than he did the previous week. If his total offerings for the year were \$4485, how much did he tithe in the first and last weeks?
12. While training for a marathon, Donna ran 0.5 km more each day than she did the previous day. If her training program lasted 4 weeks, and she ran a total of 623 km during that time, how far did she run on the first and last days?
13. The side of an equilateral triangle is 24 cm long. A second triangle is formed by joining the midpoints of the sides of the first triangle. A third triangle is formed by joining the midpoints of the sides of the second triangle, and so on. What is the sum of the perimeters of the first 10 triangles?
14. Leanne has decided to start saving money. If she saves \$1 the first year, \$2 the second year, \$4 the third year, \$8 the fourth year, and so on, how much will she have saved after 15 years?
15. Many years ago, Dr. Lewis invested in a oil drilling company. Each year after the first, his investment earned him 3 times as much as in the previous year. If Dr. Lewis earned a total of \$45,375 in the first 5 years, how much did he earn in the first year? How much did he earn in the fifth year?
16. Upon graduating from college, John accepted a job at a yearly salary of \$39,400. If John has a guaranteed increase of 5% per year, what is his total guaranteed salary during the first 4 years? How much will he earn during the 4th year?

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| <p>1.
 Answer: 18; 984
 CodePath: EAS.TRILL.N.1</p> <p>2.
 Answer: 14
 CodePath: EAS.TRILL.N.3</p> <p>3.
 Answer: 11.025 m
 CodePath: EAS.TRILL.N.5</p> <p>4.
 Answer: 246 ft; 37
 CodePath: EAS.TRILL.N.7</p> <p>5.
 Answer: 9 sec
 CodePath: EAS.TRILL.N.9</p> <p>6.
 Answer: 63
 CodePath: EAS.TRILL.N.11</p> <p>7.
 Answer: 15
 CodePath: EAS.TRILL.N.13</p> <p>8.
 Answer: \$2175
 CodePath: EAS.TRILL.N.15</p> <p>9.
 Answer: 304 ft
 CodePath: EAS.TRILL.N.17</p> <p>10.
 Answer: \$1.25, \$72.5
 CodePath: EAS.TRILL.N.21</p> <p>11.
 Answer: \$48, \$124.50
 CodePath: EAS.TRILL.N.23</p> <p>12.
 Answer: 15.5 km, 29 km
 CodePath: EAS.TRILL.N.24</p> <p>13.
 Answer: ≈ 143.86 cm
 CodePath: EAS.TRILL.N.71</p> <p>14.
 Answer: \$32,767
 CodePath: EAS.TRILL.N.68</p> | <p>15.
 Answer: \$375; \$30,375
 CodePath: EAS.TRILL.N.66</p> <p>16.
 Answer: \$169,818.93, \$45,610.43
 CodePath: EAS.TRILL.N.64</p> |
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