

Solutions

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4. Describe each number pattern.

- a) 2, 6, 18, 54, ... multiply by 3
- b) 110, 90, 70, 50, ... subtract 20

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5. Malina can bring up to four CDs on a car ride. How many different ways can she bring no CDs? one CD? two CDs? three CDs? four CDs? P, Q, R, S

- 0 CDs → 1 P, Q, R, S
- 1 CD → 4 PQ, PR, PS, QR, QS, RS
- 2 CDs → 6 PQR, PQS, PRS, QRS
- 3 CDs → 4 PQRS
- 4 CDs → 1

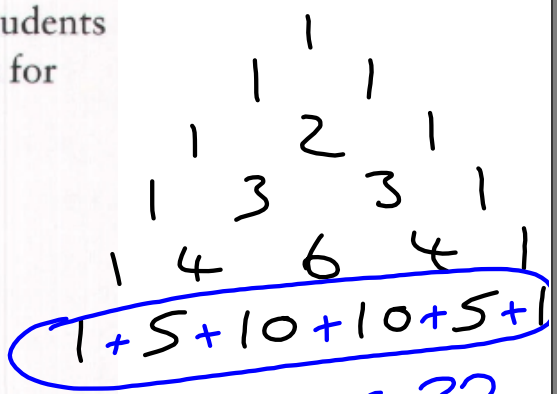


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6. During a graduation barbecue, students can choose up to five condiments for their burgers.

- ketchup
- mustard
- relish
- barbecue sauce
- steak sauce

How many different ways can students put condiments on their burgers?



Total of 32 ways

- Toppings
- 0 → 1 way
 - 1 → 5 ways
 - 2 → 10 ways
 - 3 → 10 ways
 - 4 → 5 ways
 - 5 → 1 way

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9. Describe each sequence.

a) 14, 17, 20, 23, ... add 3

b) $\frac{3}{2}, \frac{5}{2}, \frac{7}{2}, \frac{9}{2}, \dots$ add 2 to the numerator OR
 1.5, 2.5, 3.5, 4.5, ... add 1.

10. Write the next three numbers for each sequence in question 9.

a) 26, 29, 32

b) $\frac{11}{2}, \frac{13}{2}, \frac{15}{2}$

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11. What operation is used to extend each sequence? Write the next two numbers.

a) 1, 5, 25, 125, ... multiply by 5

b) 243, 81, 27, 9, ... divide by 3

c) 2, 16, 30, 44, ... add 14

a) 625, 3125

b) 3, 1

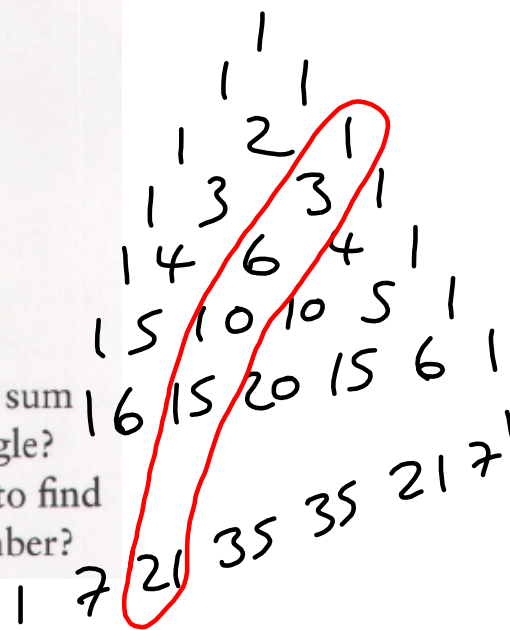
c) 58, 72

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15. a) Copy and complete the table.

Number	Sum Up To the Number	Result
1	1	1
2	1 + 2	3
3	1 + 2 + 3	6
4	1 + 2 + 3 + 4	10
5	1 + 2 + 3 + 4 + 5	15
6	1 + 2 + 3 + 4 + 5 + 6	21

- b) Can you find each number and the sum up to that number in Pascal's triangle?
- c) How can you use Pascal's triangle to find the sum of numbers up to any number?



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