

s1#83084 Du1kp hw1f#7hulhv2Sduwld#7xp v#

s1#83

Find the sum of the first 6 terms of each sequence

1) $\{1, 2, 3, 4, 5, 6\}$ $= 21$

5, #7333 / #6 : 83 / #6833 / #3250, 3000, ... 2750

add this number to your sheet $= 20,250$

Arithmetic Series/Partial Sum:

We can find the partial sum of an arithmetic sequence with this formula

$$S_n = \frac{n}{2} (a_1 + a_n)$$

$$S_6 = \frac{6}{2} (1 + 6)$$

$$S_n = \frac{n}{2} (a_1 + a_n)$$



41, ##lbg#kx#xp #r i#kx#lww#58#qwhjhuv/#ehj lqqbj#z lk#4 i##

$$S_{25} = \frac{25}{2} (1 + 25) = 325$$

51, ##lbg#kx#xp #r i#kx#lww#: #whup v#r i#dq#dulwp hwif#
vhtxhqfn#i#d_4#@ #7#dqg#d_#@ #79

$$S_7 = \frac{7}{2} (4 + 46) = 175$$

$$S_n = \frac{n}{2} (a_1 + a_n)$$



61, ##D#gdwirqdd#hjq lqhuhqj #rujdqj|dwirq#lv#kr@lqj #d#frp shw#wirq#lq#z klfk#
wkh#wrs#; #lqlkhuw#z lq#fdvk#sul}hv#l lww#solfn#hfnlyhv#d#fdvk#sul}h#r i#
'8333/#hfrqg#solfn#hfnlyhv# 7833/#k lq#solfn#hfnlyhv# 7333/#lqg#v#r#q#
Z kdw#lv#wkh#WR WDO#dp rxqw#r i#sul}h#p rqh|B



$$a_8 = 5000 + (8-1)(-500) = 1500$$

$$S_8 = \frac{8}{2} (5000 + 1500) = 26,000$$

71, ##D#wkhdwuh#kdv#65#urz v#r i#hdw#l##Wkhuh#dun#59#hdw#lq#wkh#1^{vv}#urz /#
dqg#83#hdw#lq#wkh#65qg#urz i#Krz #p dq| #WR WDO#hdw#lun#wkhuhB



$$S_{32} = \frac{32}{2} (26 + 150)$$

$$S_{32} = 2,816 \text{ seats}$$

$$S_n = \frac{n}{2} (a_1 + a_n)$$

8,### Consider a savings plan for yourself. You have never tried to save money before so you are going to take it slowly. At the end of the first week you are going to put \$1.00 in the bank. Then at the end of the second week you are going to deposit \$1.75 in the bank. At the end of the third week, you will deposit another \$2.50 in the bank, and so on...



$$n=20 \quad a_1=1.00 \quad d=.75$$

How much money will you have saved in TOTAL at the end of the 20th week?

$$a_{20} = 1.00 + (20-1)(.75) = 15.25$$

$$S_{20} = \frac{20}{2} (1.00 + 15.25)$$

$$S_{20} = \$162.50$$

Homework time!