



Year 8 Weekly Tutorial - 03

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1. The n^{th} term of a sequence is given by

a) $U_n = 3 - 2n$ b) $U_n = 2n^2 - n$ c) $U_n = \frac{n^2+1}{n}$

Find the first four terms in the sequences.

2. Find the n^{th} term of the sequence.

a) 3 , 7 , 11 , 15,

b) -1 , -3 , -5 , -7 ,

c) $\frac{1}{2}$, $\frac{5}{6}$, $\frac{7}{6}$, $\frac{3}{2}$,

3.

a) The n^{th} term of a sequence is $7n + 3$. Which term of the sequence has the value 178.

b) The n^{th} term of a sequence is $12 - 5n$. Which term of the sequence has the value -148.

4.

a) The n^{th} term of a sequence is $-3n + 25$.

I. Which term has the value -110.

II. Is the value -127 in the sequence?

III. Is the value -271 in the sequence?

5. Expand and simplify.

a) $-2(3 - x)(2x + 5)$

b) $\left(\frac{1}{a^2} - a\right)\left(a^2 + \frac{1}{a}\right)$

6. Solve the following inequalities.

a) $\frac{12-3x}{2} > 5 - x$

b) $7 + 3x \geq \frac{15+4x}{2}$

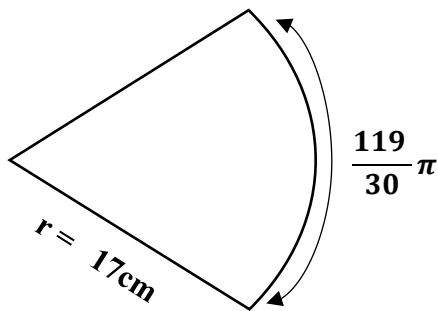
7. Simplify the following.

a) $\left(\frac{2x^2}{3y^3}\right)^2 \times \frac{9y^4}{8x^3}$

b) $(27x^{12})^{\frac{2}{3}}$

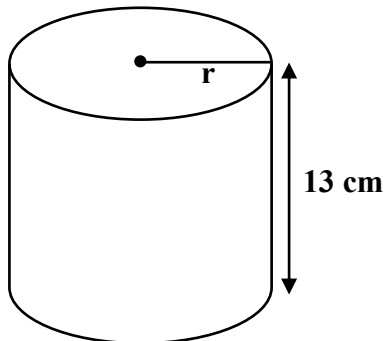
8. Find the sum of interior angles of regular polygon whose an exterior angle is 15° .

9.



Find the area of the sector in terms of π .

10.



The volume of the cylinder is 1470 cm^3 .
Find r , correct to 1dp.