

Question of the Day

What is your favorite film?
What is the best film you've ever seen?
Are they the same?

On the Docket

Math vocabulary.
Concept review.
Continuity.

$$B_{t+1} = \gamma \cdot B_t$$

- What is this expression?
- What is γ ?
- What is B_t ?
- What is t ?
- What is B_{t+1} ?

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- What is this expression?
- What is B_t ?
- What is B_{t+1} ?
- What is γ ?
- What is t ?

$$B(t) = B_0(\gamma)^t$$

- What is this expression?
- What is B_0 ?
- What is $B(t)$?
- What is γ ?
- What is t ?

1, 3, 6, 10, 15, 21, ...

- What is this expression?
- What does ... mean?

$1, 3, 6, 10, 15, 21, \dots$

- What is this expression?
- What does \dots mean?

$1 + 2 + 3 + 4 + 5 + 6 + \dots + n$

- What is this expression?
- What does \dots mean?
- What are the partial sums?
- What does n mean?

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- What is this expression?
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- What are the partial sums?
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These are the “triangle numbers.” Why?

Activity 1

Write a recurrence relation. Your relation should

1. Model some real world behavior.
2. Have initial value(s) and a formula for the next value.

Once it is written, calculate the next value for at least two steps.

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Activity 2

Find a closed form for your relation from Activity 1.

Check to see that it fits your previous calculations.

Concept Review

Three Possibilities for Limits

A limit may get “arbitrarily close” to some real number c .

$$\lim_{t \rightarrow \infty} = c$$

A limit may become “arbitrarily large” (or small).

$$\lim_{t \rightarrow \infty} = \pm\infty$$

A limit may simply not exist.

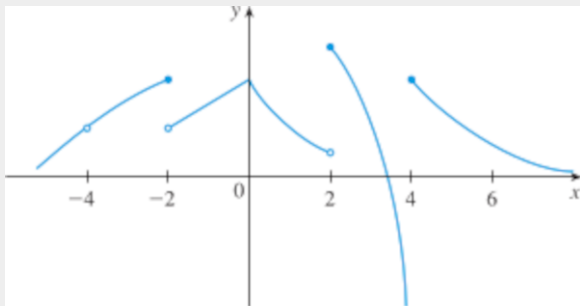
Activity 3

Give an example (by description, graph or formula) of

1. A limit which approaches some number c .
2. A limit which tends to positive or negative infinity.
3. A limit which does not exist.

Continuity

Consider the following graph.



What is the graph doing

■ At -4 ?

■ At -2 ?

■ At 0 ?

■ At 2 ?

■ At 4 ?