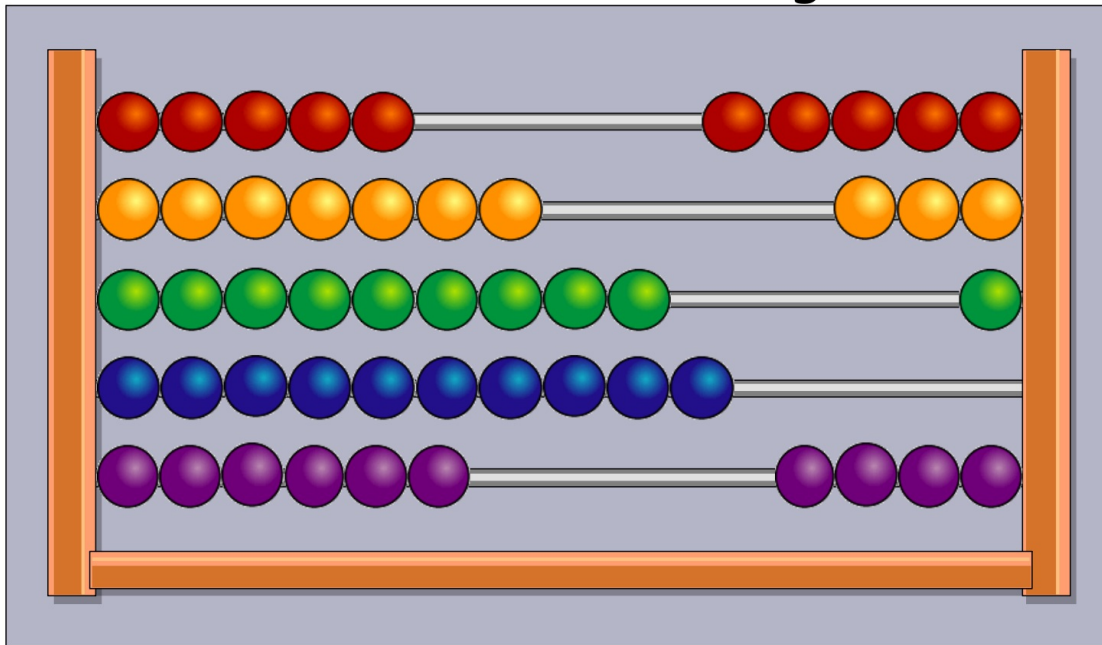


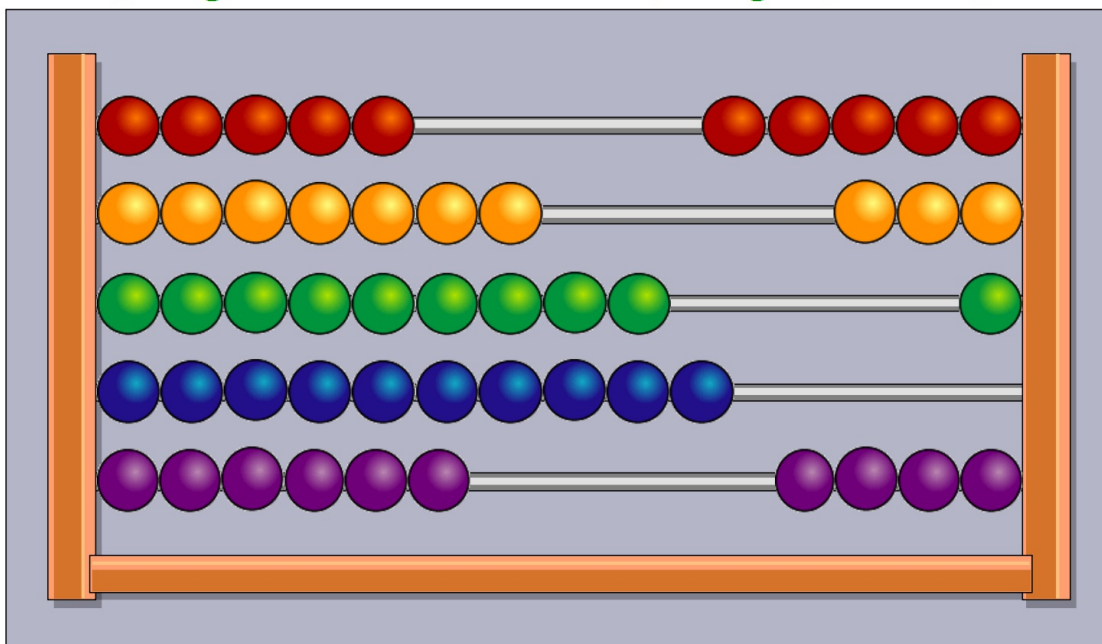
April 8

How do you know when you need
the derivative instead of the
antiderivative or integral?



April 8

Students will verbally explain how to
solve problems with calculus
(using the words: derivative, integral, solve...)



Calculus The Musical - Tonight
at Stanely Lake High School \$7

Calculus Bowl - Tomorrow
at Gateway High School

28. For $t \geq 0$, the position of a particle moving along the x -axis is given by $x(t) = \sin t - \cos t$. What is the acceleration of the particle at the point where the velocity is first equal to 0?

(A) $-\sqrt{2}$ (B) -1 (C) 0 (D) 1 (E) $\sqrt{2}$

$$v(t) = x'(t) = \cos(t) - (-\sin(t)) = \cos(t) + \sin(t)$$

$$a(t) = v'(t) = -\sin(t) + \cos(t)$$

$$v(t) = 0 = \cos(t) + \sin(t)$$

$$-\cos(t) = \sin(t)$$

$$t = \boxed{3\pi/4} \quad 7\pi/4$$

$\frac{\pi}{4}$
 $\frac{\pi}{4}$

$$a(3\pi/4) = -\sin(3\pi/4) + \cos(3\pi/4)$$

$$= -(\sqrt{2}/2) + (-\sqrt{2}/2) = -\sqrt{2}/2 - \sqrt{2}/2 =$$

$$= -2\sqrt{2}/2 = -\sqrt{2}$$

Devonna

Max

Bochra

Tyler

Kessanet

Desirae

Josh

Carmen

Dillon

Joe

Jonah