VD 8.3.1

Data below describe a beach ball after it was thrown in a gym and started bouncing and advancing. Assume that the height of each bounce of the ball can reach forms a geometric sequence, and the distance measured from every touch down to its initial thrown location forms an arithmetic sequence. Answer:

(a) What would be the height of the ball at the 6^{th} bounce?

(b) What would be the distance of the ball at the 6^{th} touch down?

(c) What is the initial height of the ball right before it was thrown?

Dataset 1:

	2^{nd}	4^{th}
height of the n-th bounce	16 feet	$\frac{32}{3}$ feet
distance of the n-th touch down	9 feet	17 feet

Ans: (a) $\frac{64}{9}$ feet (b) 25 feet (c) 24 feet

Dataset 2:

	2^{nd}	4^{th}
height of the n-th bounce	6 feet	$\frac{36}{25}$ feet
distance of the n-th touch down	10 feet	16 feet

Ans (a) $\frac{216}{625}$ feet (b) 22 feet (c) 25 feet