

LATEX PRACTICE

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Math AoPS

6.1.5)

Alice changes size several times. The ratio of her original height to her second height is 24 to 5. The ratio of her second height to her third height is 1 to 12. The ratio of her original height to her fourth height is 16 to 1. The tallest of these four heights is 10 feet. What is her shortest height?

$$\frac{a}{b} = \frac{24}{5} = \frac{48}{10}$$
$$\frac{b}{c} = \frac{1}{12} = \frac{5}{60} = \frac{10}{120}$$
$$\frac{a}{d} = \frac{16}{1} = \frac{48}{3}$$

Max height = 10 ft

Find min height.

$$\frac{3}{120} = \frac{x}{10}$$
$$x = 10 \times \frac{3}{120} = \frac{3}{12} \text{ ft}$$