

A2.A.31: Sequences: Determine the common ratio in a geometric sequence

- 1 What is the common ratio of the geometric sequence shown below?

$-2, 4, -8, 16, \dots$

- 1) $-\frac{1}{2}$
- 2) 2
- 3) -2
- 4) -6

- 2 The common ratio of the sequence $-\frac{1}{2}, \frac{3}{4}, -\frac{9}{8}$ is

- 1) $-\frac{3}{2}$
- 2) $-\frac{2}{3}$
- 3) $-\frac{1}{2}$
- 4) $-\frac{1}{4}$

- 3 What is the common ratio of the sequence

$\frac{1}{64} a^5 b^3, -\frac{3}{32} a^3 b^4, \frac{9}{16} ab^5, \dots?$

- 1) $-\frac{3b}{2a^2}$
- 2) $-\frac{6b}{a^2}$
- 3) $-\frac{3a^2}{b}$
- 4) $-\frac{6a^2}{b}$

- 4 What is the common ratio of the geometric sequence whose first term is 27 and fourth term is 64?

- 1) $\frac{3}{4}$
- 2) $\frac{64}{81}$
- 3) $\frac{4}{3}$
- 4) $\frac{37}{3}$

A2.A.31: Sequences: Determine the common ratio in a geometric sequence**Answer Section**

1 ANS: 3

$$\frac{4}{-2} = -2$$

REF: 011304a2

2 ANS: 1

$$\frac{\frac{3}{4}}{-\frac{1}{2}} = -\frac{3}{2}$$

REF: 011508a2

3 ANS: 2

$$\frac{-\frac{3}{32}a^3b^4}{\frac{1}{64}a^5b^3} = -\frac{6b}{a^2}$$

REF: 061326a2

4 ANS: 3

$$27r^{4-1} = 64$$

$$r^3 = \frac{64}{27}$$

$$r = \frac{4}{3}$$

REF: 081025a2