Station 8 Work

1. check for common ratio

$r = \frac{\frac{5}{18}}{\frac{5}{3}} = \frac{1}{6}$ $|r| < 1 \therefore$ converges → $S = \frac{a_1}{1+r}$

$S = \frac{60}{1-\frac{1}{6}} = 72$

(B)

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2. $r = \frac{\frac{-36}{125}}{\frac{36}{25}} = -\frac{1}{5}$ $|r| < 1 \therefore$ converges → $S = \frac{36}{1+\frac{1}{5}} = 30$

(B)

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3. $r = \frac{\frac{4}{231}}{\frac{2}{231}} = 2$ $|r| \neq 1 \therefore$ diverges (D)

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4. $a_n = a_{n-1} + a_{n-2}$

$a_1 = 8$
$a_2 = 9$
$a_3 = 8 + 9 = 17$
$a_4 = 9 + 17 = 26$

(B)

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5. $a_n = a_{n-1} + 7$

$a_1 = -3$
$a_2 = -3 + 7 = 4$
$a_3 = 4 + 7 = 11$
$a_4 = 11 + 7 = 18$

(B)