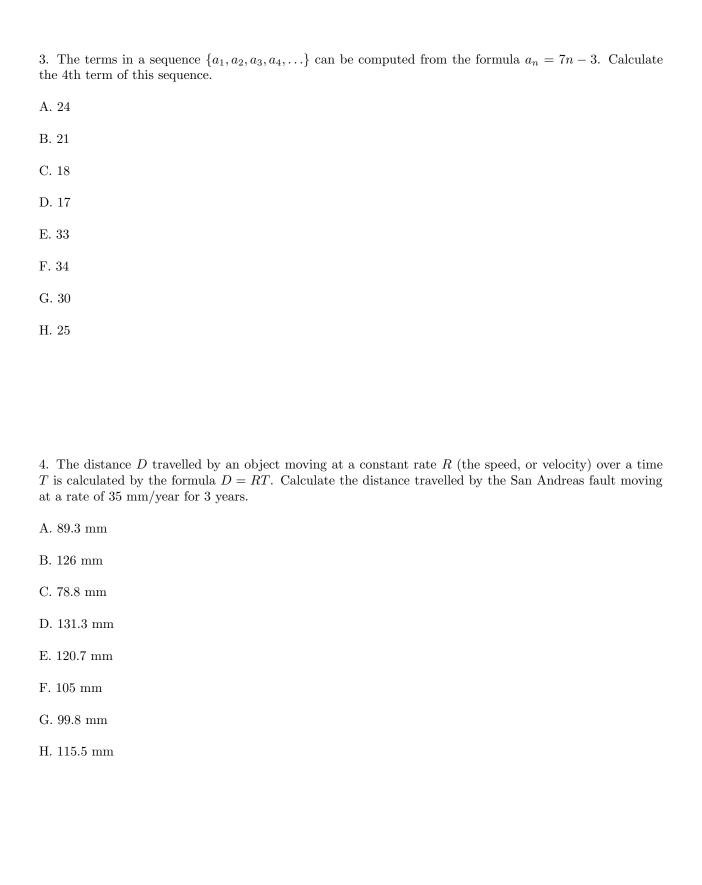1. Use the formula $m = \dfrac{y_2 - y_1}{x_2 - x_1}$ to calculate the slope m of a line passing through the points $(2, 7)$ and $(-2, 6)$

A. $-\frac{1}{4}$

B. Undefined

C. $\frac{7}{12}$

D. $\frac{1}{12}$

E. $\frac{1}{4}$

F. $-\frac{7}{12}$

G. $\frac{5}{12}$

H. $\frac{1}{2}$

2. Evaluate the expression $-b^2 - 8c^2$ at the values $b = 1$ and $c = 4$.

A. -121

B. -135

C. -122

D. -126

E. -134

F. -138

G. -133

H. -129

3. The terms in a sequence $\{a_1, a_2, a_3, a_4, \ldots\}$ can be computed from the formula $a_n = 7n - 3$. Calculate the 4th term of this sequence.

A. 24

B. 21

C. 18

D. 17

E. 33

F. 34

G. 30

H. 25

4. The distance D travelled by an object moving at a constant rate R (the speed, or velocity) over a time T is calculated by the formula $D = RT$. Calculate the distance travelled by the San Andreas fault moving at a rate of 35 mm/year for 3 years.

A. 89.3 mm

B. 126 mm

C. 78.8 mm

D. 131.3 mm

E. 120.7 mm

F. 105 mm

G. 99.8 mm

H. 115.5 mm

5. Evaluate the expression $-6z^2 + 2z + 1$ at the value $z = 3$.

A. -39

B. -41

C. -46

D. -44

E. -47

F. -43

G. -40

H. -48

6. Evaluate the expression at the values $z = -1$ and $c = 2$.

$$\frac{-3z^2 + 6c^2}{-5z - 8c}$$

A. $-\frac{52}{33}$

B. $-\frac{137}{66}$

C. $-\frac{51}{44}$

D. Undefined

E. $-\frac{53}{22}$

F. $-\frac{21}{11}$

G. $-\frac{74}{33}$

H. $-\frac{117}{44}$

7. Use the formula $I = PRT$ to calculate the interest for an investment of $2000 at 7.25 percent for 1 year. Round your answer to the nearest dollar.

A. 145

B.217

C. 206

D.228

E. 187

F.196

G. 166

H.177

8. Evaluate the expression at the value $c = 3$.

$$\frac{4c^2 + 3c - 6}{-5c^2 - 2c - 5}$$

A. $-\frac{53}{56}$

B. $-\frac{5}{168}$

C. $\frac{23}{168}$

D. Undefined

E. $-\frac{39}{56}$

F. $-\frac{61}{168}$

G. $-\frac{257}{168}$

H. $-\frac{229}{168}$