

Section 1-1: The Integers

The Set of Integers

1. 010824a, P.I. A.A.1
The larger of two consecutive integers is represented by $x + 4$. Which expression represents the *smaller* integer?
- [A] $x + 5$ [B] $x + 2$
[C] $x + 6$ [D] $x + 3$

Subsets of the Integers

2. 010006a, P.I. A.A.1
If the number represented by $n - 3$ is an odd integer, which expression represents the next greater odd integer?
- [A] $n - 2$ [B] $n + 1$ [C] $n - 5$ [D] $n - 1$
3. 010506a, P.I. A.A.1
If $n + 4$ represents an odd integer, the next larger odd integer is represented by
- [A] $n + 3$ [B] $n + 5$
[C] $n + 6$ [D] $n + 2$
4. 080716a, P.I. A.A.1
In the Ambrose family, the ages of the three children are three consecutive even integers. If the age of the youngest child is represented by $x + 3$, which expression represents the age of the oldest child?
- [A] $x + 6$ [B] $x + 7$
[C] $x + 5$ [D] $x + 8$
5. 010712a, P.I. A.A.1
Which expression represents the product of two consecutive odd integers, where n is an odd integer?
- [A] $n(n + 2)$ [B] $n(n + 3)$
[C] $2n + 1$ [D] $n(n + 1)$

6. 080113a, P.I. 7.N.11
If n represents an odd number, which computation results in an answer that is an even number?
- [A] $2 \times n + 1$ [B] $2 \times n - 1$
[C] $3 \times n + 1$ [D] $3 \times n - 2$
7. 060113a, P.I. 7.N.11
If a is an odd number, b an even number, and c an odd number, which expression will always be equivalent to an odd number?
- [A] $ac(b)^1$ [B] $ac(b)^0$
[C] $ac(b)^2$ [D] $a(bc)$
8. 060525a, P.I. 7.N.11
If a and b are both odd integers, which expression must always equal an odd integer?
- [A] $a \cdot b$ [B] $\frac{a}{b}$ [C] $a + b$ [D] $a - b$
9. 080326b
Tom scored 23 points in a basketball game. He attempted 15 field goals and 6 free throws. If each successful field goal is 2 points and each successful free throw is 1 point, is it possible he successfully made all 6 of his free throws? Justify your answer.

Absolute Value

10. 010518a, P.I. A.N.6
The expression $-|-7|$ is equivalent to
- [A] -7 [B] 7 [C] 1 [D] 0

[1] D

[2] D

[3] C

[4] B

[5] A

[6] C

[7] B

[8] A

[2] No, and a correct justification is given.

[1] No, but an incomplete or partially incorrect explanation is given.

[0] No, but no explanation is given.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[9] obviously incorrect procedure. _____

[10] A