Would you like to receive feedback from our execs? (marking your solutions, giving corrections, etc.)
Yes/No: _____

Multiple Choice

Highlight the correct answer for each question.

1. What is a possible value for n if $3 \times 3 \times 5 \times 5 \times 7 \times 9 = 3 \times 3 \times 7 \times n \times n$

(A) 15 (B) 25 (C) 45 (D) 35 (E) 5

2. The sum of ten consecutive integers is S. Ten times the smallest of these integers is T. What is the value of $S - T$?

(A) 45 (B) 55 (C) 10 (D) 9 (E) 66

3. If w is a positive integer and $w^3 = 25w$, then w^5 is equal to:

(A)5 (B)25 (C)15625 (D) 625 (E) 3125

4. The points $Q(1, -1)$, $R(-1, 0)$ and $S(0, 1)$ are three vertices of a parallelogram. The coordinates of the fourth vertex of the parallelogram could be:

(A) $(-2, 2)$ (B) $(0, -1)$ (C) $(0, 0)$ (D) $(\frac{3}{2}, \frac{1}{2})$ (E) $(-1, 1)$

5. Connie has a number of gold bars, all of different weights. She gives the 24 lightest bars, which weigh 45% of the total weight, to Brennan. She gives the 13 heaviest bars, which weigh 26% of the total weight, to Maya. She gives the rest of the bars to Blair. How many bars did Blair receive?

(A) 14 (B) 15 (C)16 (D) 17 E) 18

Word Problems

Either type your solutions or insert images of handwritten solutions. Be sure to show your work!

1. Expand and simplify fully the expression (a − 2)(6a^2 − a − 2).

2. Right-angled ΔPQR has $\angle PQR = 90°$, $PQ = 6$ and $QR = 8$. If M is the midpoint of QR and N is the midpoint of PQ, determine the lengths of the medians PM and RN

3. Prove that the sum of the squares of three consecutive integers cannot be a perfect square.

Survey

Your responses will not affect your likelihood of being counted for attendance. This is simply to let our execs know how we can improve. :)

1. Approximately how much time did you spend on this problem set?

(A) Less than 15 mins
(B) 15 mins to 30 mins
(C) 30 mins to 1 hour
(D) 1 to 2 hours
(E) Over 2 hours

2. How difficult did you find this problem set?

(A) Too easy
(B) Fairly easy
(C) Neutral
(D) Fairly difficult
(E) Too difficult

Thank you for your feedback!