14. The speed of one train exceeds twice the speed of another by 30 mph. If r mph is the speed of the slower train, which of the following expresses the speed, in miles per hour, of the faster train?

    F. $r + 15$
    G. $r - 30$
    H. $r + 30$
    J. $2r - 30$
    K. $2r + 30$

27. John Jones has decided to go into the business of producing and selling boats. In order to begin this venture, he must invest $10 million in a boat production plant. The cost to produce each boat will be $7,000, and the selling price will be $20,000. Accounting for the cost of the production plant, which of the following expressions represents the profit, in dollars, that John will realize when x boats are produced and sold?

A. $13{,}000x - 10{,}000{,}000$
B. $27{,}000x - 10{,}000{,}000$
C. $9{,}973{,}000x$
D. $20{,}000x$
E. $13{,}000x$

54. As shown below, rectangle *ABCD* is divided into 2 large squares (labeled L) each x inches on a side, 15 small squares (labeled S) each y inches on a side, and 13 rectangles (labeled R) each x inches by y inches. What is the total area, in square inches, of *ABCD* ?

A   B

L	*R* *R* *R* *R* *R*
L	*R* *R* *R* *R* *R*
R	*S* *S* *S* *S* *S*
R	*S* *S* *S* *S* *S*
R	*S* *S* *S* *S* *S*

D   C
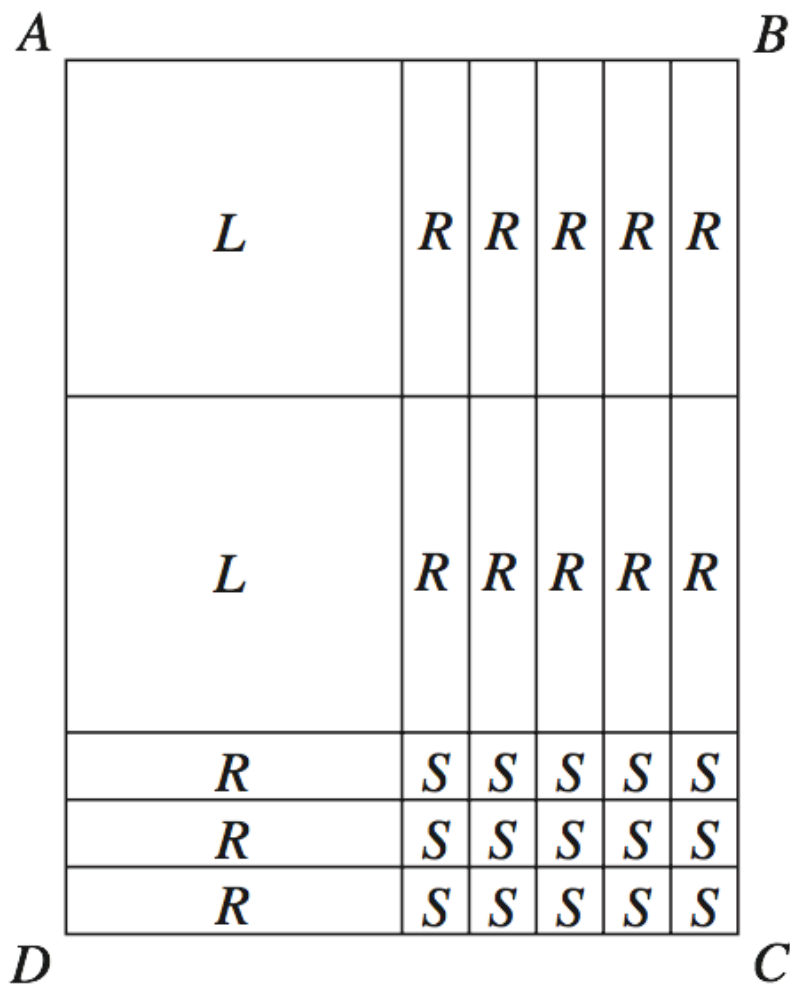
F. $2x + 13xy + 15y$

G. $6x + 16y$

H. $2x^2 + 15y^2$

J. $2x^2 + 8xy + 15y^2$

K. $2x^2 + 13xy + 15y^2$

5. An earring manufacturing company has fixed costs of $10,000 per month and production costs of $0.60 for each pair of earrings it makes. If the company produces x pairs of earrings in a month, which of the following expressions represents the total of the company's monthly costs?

A. $10,000x$
B. $10,000 + x$
C. $10,000x + \$0.60$
D. $10,000 + \$0.60x$
E. $(\$10,000 + \$0.60)x$

D

FIXED COSTS + Variable COST

$\$10,000 + \$0.60x$

fixed

TAXES, RENT, eTC

Variable → depends on how many made

3. To attend the Press Club Annual Banquet, members pay $40 per ticket, while nonmembers pay $50 per ticket. What is the revenue, in dollars, from the tickets when 100 member tickets and n nonmember tickets are purchased?

A. $n + 100$
B. $50n + 40(100)$
C. $50(n + 100)$
D. $50(n + 40)$
E. $(50 + 40)n$

Creating Algebraic phrase

To problem solve

Price per Ticket times Number of Tickets sold equals Total revenue

$\$40(100) + \$50(n) = 50n + 40(100)$