



Math Olympiad and Problem Solving Programs  
E210 - Introductory Math Competitions  
Problem Set 12.2 - Let It Be X

Name:

Date:

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Instructions: Express each answer as an algebraic equation or statement.

- (a) Angela bought 14, and Jason bought  $14t$ , so they bought  $14 + 14t$  altogether. (b)  $42$
- (a)  $9n+24$  (b)  $\$123$
- (a) He spent  $\$5f$  on books and  $\$4f$  on notebooks, so he spent  $5f + 4f = 9f$  (b)  $\$207$
- (a) If he kept  $7p$  carrots, he used  $61p - 7p = 54p$  for his bundles. If he made 18 bundles, then he used  $54p \div 18 = 3p$  carrots per bundle. (b)  $15$
- (a) He spent  $6 \times 4a = 24a$  on games and  $5 \times 3a = 15a$  on snacks. So he spent  $24a + 15a = 39a$ . Therefore he had  $47a - 39a = 8a$  remaining. (b)  $\$24$
- (a) If he bought 2 skateboards for  $6t$  then he bought one for  $6t \div 2 = 3t$ . If he bought 3 guitars for  $21t$ , then one cost  $21t \div 3 = 7t$ . So the difference in prices is  $7t - 3t = 4t$  (b)  $\$87$
- (a) Neil has  $5r$ , Anthony has  $3 \times 5r = 15r$ , and Jae has  $15r - 31$ . So they have  $5r + 15r + 15r - 31 = 35r - 31$  (b)  $109$
- (a) The area of the cardboard is  $16y \times 23y = 368y^2$ . The areas of the small squares are  $6y \times 6y = 36y^2$ , and there are four of them, so the total area that is cut away is  $4 \times 36y^2 = 144y^2$ . The remaining cardboard is  $368y^2 - 144y^2 = 224y^2$  (b)  $896$
- (a) The total area is  $14k \times 32k = 448k^2$ . The quilt pieces have area  $2k \times 8 = 16k$ . So to find out how many pieces there are, divide  $448k^2 \div 16k = 28k$  (b)  $336$