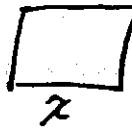


Solutions Algebra 1 Team Questions January 23, 1993

1)  $a+b=1$  Possibilities of  $ab=-12$   $a+b$   
 $ab=-12$  1, -12 -1, 12 -11, 11 4, -3 and  
 2, -6 -2, 6 -4, 4 since  $a < b$   
 3, -4 4, -3 -1, 1  $a = -3$   $b = 4$   
 $-3-4 = -7$

2)   $P = 4x$   
 $124 = 4x$   
 a)  $31 = x$   
 b)  $961$

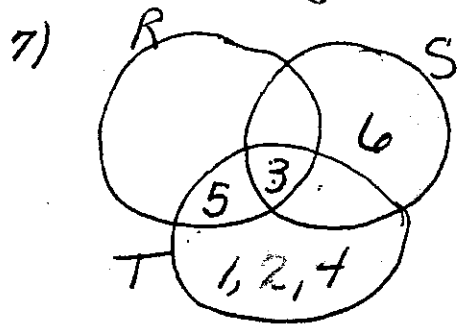
$A = x^2$   
 $A = 31^2$   
 $A = 961 \text{ m}^2$

3)  $2 \left[ \frac{5 - 2 \times 2 + 8 \times 3}{24 \div 6 + 4 - 3} \right]$   
 $2 \left[ \frac{5 - 4 + 24}{4 + 4 - 3} \right]$   
 $2 \left[ \frac{25}{5} \right] = 2 [5] = 10$

4)  $-6 + |w| = -4$   
 $|w| = 2$   
 $w = 2$  or  $w = -2$   
 $2, -2$

5) a)  $f(3) = (3+1)^2 = 4^2 = 16$   
 b)  $F(-2) = (-2+1)^2 = (-1)^2 = 1$   
 c)  $f(a-1) = (a-1+1)^2 = (a)^2 = a^2$   
 $16, 1, a^2$

6) at 3 for 50¢ each plum cost  $16 \frac{2}{3}$  cents each  
 at 5 for \$1.00 you get 20 cents each.  $\therefore$  your profit  
 is  $3 \frac{1}{3}$ ¢ each plum. You want to make \$10 or 1000¢  
 $1000 \div 3 \frac{1}{3} = 1000 \times \frac{3}{10} = 300$  plums  $300$



$S = \{3, 6\}$

8)  $y^2 - (y-2)^2$   
 $(y+y-2)(y-(y-2))$   
 $(2y-2)(2) = 2(2y-2)$   
 $4(y-1)$

9) a)  $4+6 \div 2 > 6$   
 $4+3 > 6$  so  $A=4$  property so  $B=3$

c) subtraction is not commutative so  $C=6$  Then  $A+BC$   
 $4+3(6) = 4+18 = 22$

# Solutions Algebra 1 Team questions January 23, 1995

10) let  $x$  = Thomas Jefferson's age in 1748

$x + 11$  = George Washington's age in 1748

$7x + 3$  = George Washington's age in 1770

$x + 22$  = Thomas Jefferson's age in 1770

Thomas Jefferson + 11 = George Washington's age

$x + 22 + 11 = 7x + 3$

$x + 33 = 7x + 3$

$30 = 6x$

$5 = x$

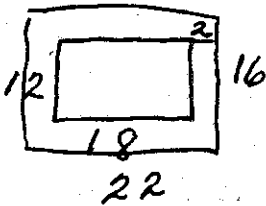
In 1748 Jefferson was 5

1750 he was 7

George Washington was 18

$\therefore 7 + 18 = \textcircled{25}$

11)



a)  $A = 22 \times 16 - 12 \times 18$

$352 - 216 = 136 \text{ sq in.}$

b)  $136 \div 144 = \frac{17}{18} \text{ sq ft.}$

c)  $136 : 216 = \frac{17}{27}$

$\textcircled{136, \frac{17}{18}, \frac{17}{27}}$

12)  $\frac{2}{3} \times \frac{5}{8} + \frac{7}{18}$

$\frac{10}{24} + \frac{7}{18} = \frac{30+28}{72} = \frac{58}{72} = \frac{29}{36}$

$\frac{29}{36} \div 4\frac{5}{6}$

$\frac{29}{36} \times \frac{6}{29} = \frac{1}{6}$

$\frac{1}{6} \cdot \frac{42}{5} = \frac{7}{5}$

$\frac{7}{5} + \frac{5}{7} - \frac{4}{35} = \frac{49}{35} + \frac{25}{35} - \frac{4}{35} = \frac{70}{35} = 2$

$\textcircled{2}$

13) a) 6 b) divided by  $(a-b-1)$  which is zero.

14)  $6[x - 2(2x+3)+1] + 3(5+6x)+x=0$

15)  $a * b = 2a + b$

$6[x - 4x - 6 + 1] + 15 + 18x + x = 0$

a)  $2 * 4 = 2(2) + 4$

$6[-3x - 5] + 15 + 19x = 0$

$= 8$

$-18x - 30 + 15 + 19x = 0$

b) no

$x - 15 = 0$

$x = 15$

$\textcircled{15}$

$\textcircled{8, \text{no}}$