

<解> PART15

[問 1] (与式)  $= 1 + 3 \times \frac{1}{4} \times (-\frac{1}{4}) = 1 - \frac{3}{16} = \frac{13}{16}$

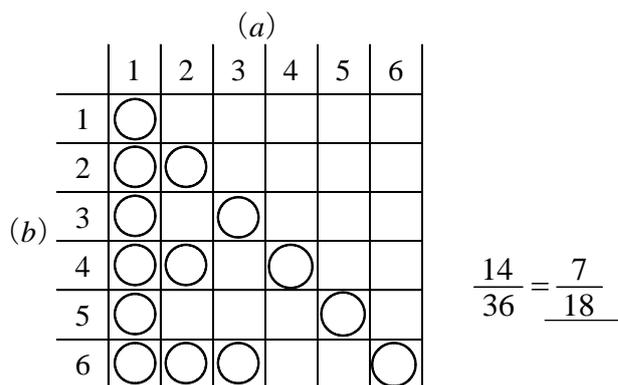
[問 2] (与式)  $= \frac{5a+b-2(a-b)}{6}$   
 $= \frac{5a+b-2a+2b}{6}$   
 $= \frac{3a+3b}{6} = \frac{a+b}{2}$

[問 3] (与式)  $= 9 - 2 - (3 - 4\sqrt{3} + 4)$   
 $= 4\sqrt{3}$

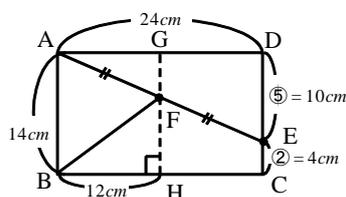
[問 4]  $\frac{1}{3}x + \frac{1}{9} = \frac{1}{7}$   
 (両辺を 63 倍)  
 $21x + 7 = 9$   
 $21x = 2$   
 $x = \frac{2}{21}$

[問 5]  $\begin{cases} 3x + 2y = 1 \\ x - y = -\frac{1}{12} \end{cases} \longrightarrow \begin{cases} 3x + 2y = 1 \\ 12x - 12y = -1 \end{cases} \longrightarrow \begin{cases} 12x + 8y = 4 \\ 12x - 12y = -1 \end{cases}$   
 $20y = 5$   
 $y = \frac{1}{4}$   
 $x - \frac{1}{4} = -\frac{1}{12}$   
 $x = -\frac{1}{12} + \frac{1}{4}$   
 $x = \frac{1}{6}$

[問 6]



[問 7]



左の△FBH で三平方の定理を立てればよい。  
 △AFG ∽ △AED より、AF : AE = GF : DE = 1 : 2  
 よって、GF =  $\frac{1}{2}$ DE = 5 cm、FH = 14 - 5 = 9 cm  
 $BF = \sqrt{FH^2 + BH^2} = \sqrt{9^2 + 12^2} = 15 \text{ cm}$