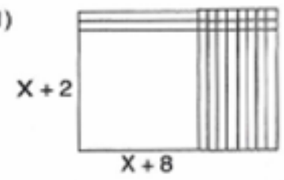
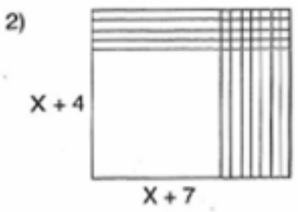
21B

1)



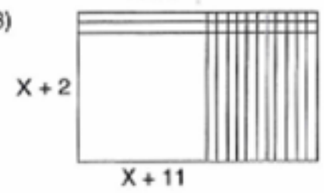
$$\begin{array}{r} X+8 \\ \times\ X+2 \\ \hline 2X+16 \\ X^2+8X \\ \hline X^2+10X+16 \end{array}$$

2)



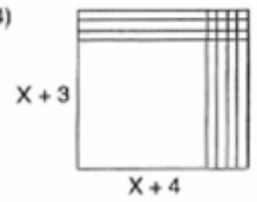
$$\begin{array}{r} X+7 \\ \times\ X+4 \\ \hline 4X+28 \\ X^2+7X \\ \hline X^2+11X+28 \end{array}$$

3)



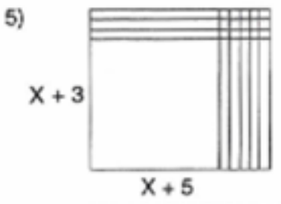
$$\begin{array}{r} X+11 \\ \times\ X+2 \\ \hline 2X+22 \\ X^2+11X \\ \hline X^2+13X+22 \end{array}$$

4)



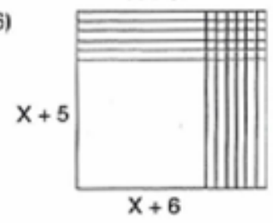
$$\begin{array}{r} X+4 \\ \times\ X+3 \\ \hline 3X+12 \\ X^2+4X \\ \hline X^2+7X+12 \end{array}$$

5)



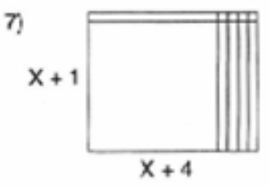
$$\begin{array}{r} X+5 \\ \times\ X+3 \\ \hline 3X+15 \\ X^2+5X \\ \hline X^2+8X+15 \end{array}$$

6)



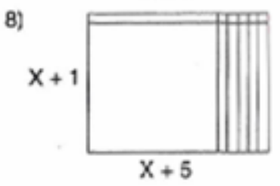
$$\begin{array}{r} X+6 \\ \times\ X+5 \\ \hline 5X+30 \\ X^2+6X \\ \hline X^2+11X+30 \end{array}$$

7)



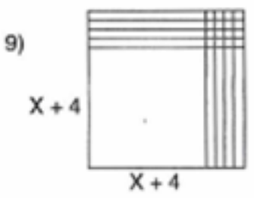
$$\begin{array}{r} X+4 \\ \times\ X+1 \\ \hline X+4 \\ X^2+4X \\ \hline X^2+5X+4 \end{array}$$

8)



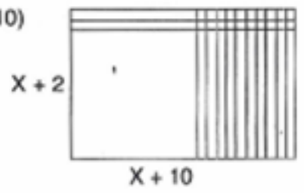
$$\begin{array}{r} X+5 \\ \times\ X+1 \\ \hline X+5 \\ X^2+5X \\ \hline X^2+6X+5 \end{array}$$

9)



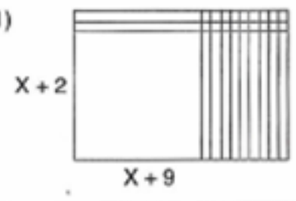
$$\begin{array}{r} X+4 \\ \times\ X+4 \\ \hline 4X+16 \\ X^2+4X \\ \hline X^2+8X+16 \end{array}$$

10)



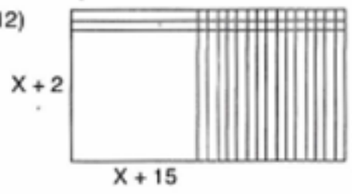
$$\begin{array}{r} X+10 \\ \times\ X+2 \\ \hline 2X+20 \\ X^2+10X \\ \hline X^2+12X+20 \end{array}$$

11)



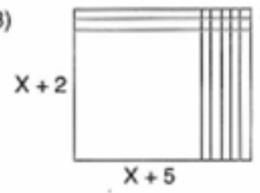
$$\begin{array}{r} X+9 \\ \times\ X+2 \\ \hline 2X+18 \\ X^2+9X \\ \hline X^2+11X+18 \end{array}$$

12)



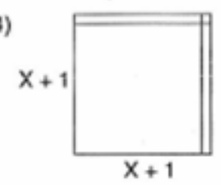
$$\begin{array}{r} X+15 \\ \times\ X+2 \\ \hline 2X+30 \\ X^2+15X \\ \hline X^2+17X+30 \end{array}$$

13)



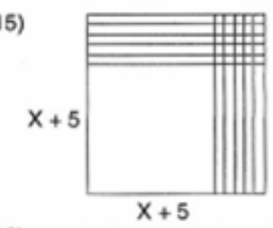
$$\begin{array}{r} X+5 \\ \times\ X+2 \\ \hline 2X+10 \\ X^2+5X \\ \hline X^2+7X+10 \end{array}$$

14)



$$\begin{array}{r} X+1 \\ \times\ X+1 \\ \hline X+1 \\ X^2+X \\ \hline X^2+2X+1 \end{array}$$

15)



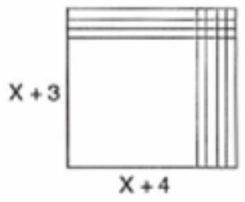
$$\begin{array}{r} X+5 \\ \times\ X+5 \\ \hline 5X+25 \\ X^2+5X \\ \hline X^2+10X+25 \end{array}$$

16)

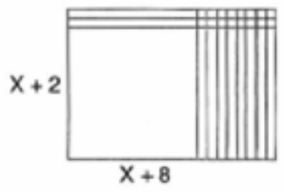
Check using same method as other examples.

21C

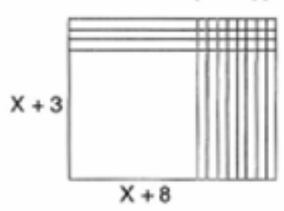
1) $X^2 + 7X + 12 = (X + 4)(X + 3)$



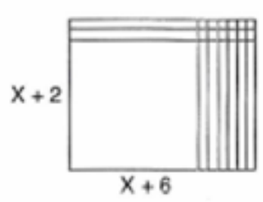
2) $X^2 + 10X + 16 = (X + 8)(X + 2)$



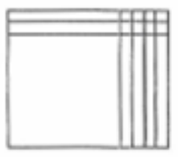
3) $X^2 + 11X + 24 = (X + 8)(X + 3)$



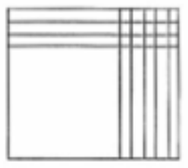
4) $X^2 + 8X + 12 = (X + 6)(X + 2)$



5) $(X + 4)(X + 2) = X^2 + 6X + 8$



6) $(X + 5)(X + 3) = X^2 + 8X + 15$



7) $X^2 + 7X + 6 = (X + 6)(X + 1)$

8)
$$\begin{array}{r} X+6 \\ \times\ X+1 \\ \hline X+6 \\ X^2+6X \\ \hline X^2+7X+6 \end{array}$$

9) $X^2 + 2X + 1 = (X + 1)(X + 1)$

10)
$$\begin{array}{r} X+1 \\ \times\ X+1 \\ \hline X+1 \\ X^2+X \\ \hline X^2+2X+1 \end{array}$$

11)
$$\begin{array}{r} 2X^2-7X-3 \\ X^2+5X+9 \\ \hline 3X^2-2X+6 \end{array}$$

12)
$$\begin{array}{r} 6X^2+2X+1 \\ X^2-4X+3 \\ \hline 7X^2-2X+4 \end{array}$$

13) $P^{-8}P^{4} = P^{-4}$

14) $R^{(-2)(-3)}S^{(3)(-3)} = R^{6}S^{-9}$

15) 225

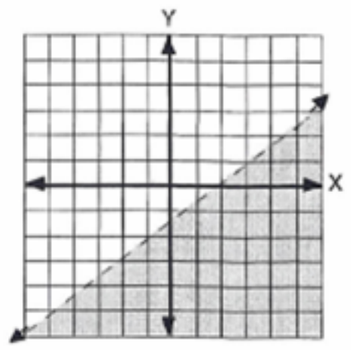
16) ± 4

17) $11N + 2(N + 2) = 6(N + 4) + 1$
$11N + 2N + 4 = 6N + 25$
$7N = 25 - 4$
$N = 3$ 3, 5, 7

18) $.10D + .05N = .60$, $D + N = 9$

$10D + 5N = 60$
$-5D - 5N = -45$
$5D = 15$ (3) + N = 9
$D = 3$ N = 6

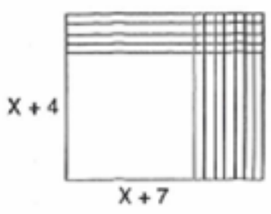
19) $7X - Y = -3$



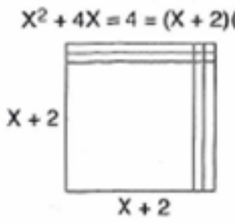
20) $Y < 3/4\ X - 5/4$

21D

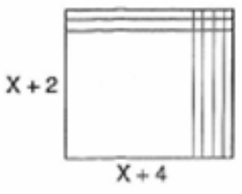
1) $X^2 + 11X = 28 = (X + 7)(X + 4)$



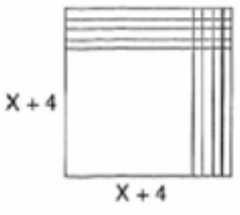
2) $X^2 + 4X = 4 = (X + 2)(X + 2)$



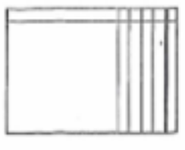
3) $X^2 + 6X + 8 = (X + 4)(X + 2)$



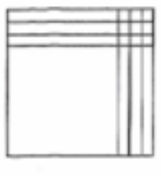
4) $X^2 + 8X + 16 = (X + 4)(X + 4)$



5) $(X + 5)(X + 1) = X^2 + 6X + 5$



6) $(X + 3)(X + 3) = X^2 + 6X + 9$



7) $X^2 + 12X + 32 = (X + 8)(X + 4)$

8)
$$\begin{array}{r} X+8 \\ \times\ X+4 \\ \hline 4X+32 \\ X^2+8X \\ \hline X^2+12X+32 \end{array}$$

9) $X^2 + 20X + 100 = (X + 10)(X + 10)$

10)
$$\begin{array}{r} X+10 \\ \times\ X+10 \\ \hline 10X+100 \\ X^2+10X \\ \hline X^2+20X+100 \end{array}$$

11)
$$\begin{array}{r} X^2+X-4 \\ X^2+3X+3 \\ \hline 2X^2+4X-1 \end{array}$$

12)
$$\begin{array}{r} 2X^2+7X+6 \\ 5X^2-4X+10 \\ \hline 7X^2+3X+16 \end{array}$$

13) $P^{(5)(3)(-2)} = P^{-30}$

14) anything to the "0" power equals 1

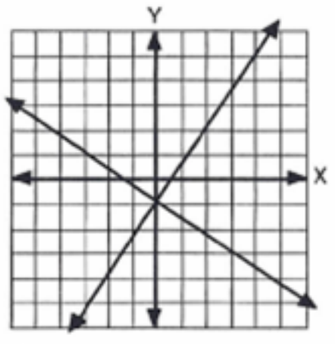
15) 121

16) ± 12

17) $14(N + 2) + 4N = 12(N + 4) - 2$
$18N + 28 = 12N + 46$
$6N = 18$
$N = 3$ 3, 5, 7

18) $.10D + .05N = 1.80$, $D + N = 27$

$10D + 5N = 180$
$-5D - 5N = -135$
$5D = 45$ (9) + N = 27
$D = 9$ N = 18



19) on the graph

20) $m = -2/3$
$(-3) = -2/3(3) + b$
$b = -1$