25B

1) $(X - 1)(X + 1)$

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

2) $(X - 6)(X + 6)$

$$\begin{array}{r} X + 6 \\ \times\ X - 6 \\ \hline -6X - 36 \\ X^2 + 6X \\ \hline X^2 - 36 \end{array}$$

3) $(Y - 4)(Y + 4)$ Continue to check by multiplying.

4) $(A - B)(A + B)$

5) $(A - 7)(A + 7)$

6) $(B - 5)(B + 5)$

7) $(Y - X)(Y + X)$

8) $(X - 2)(X + 2)$

9) $(A - 12)(A + 12)$

10) $4(X^2 - Y^2) = 4(X - Y)(X + Y)$

11) $(B - 8)(B + 8)$

12) $(X - 9)(X + 9)$

13)
$$\begin{array}{r} 57 \\ 53 \\ \hline 3021 \end{array}$$

14)
$$\begin{array}{r} 75 \\ 75 \\ \hline 5625 \end{array}$$

15)
$$\begin{array}{r} 35 \\ 35 \\ \hline 1225 \end{array}$$

16)
$$\begin{array}{r} 96 \\ 94 \\ \hline 9024 \end{array}$$

25C

1) $(X - 4)(X + 4)$

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

3) $(X - 6)(X + 6)$

4)
$$\begin{array}{r} X - 6 \\ \times\ X + 6 \\ \hline 6X - 36 \\ X^2 - 6X \\ \hline X^2 - 36 \end{array}$$

5)
$$\begin{array}{r|l} & 2X + 5 \text{ R } 10 \\ \hline X - 1 & 2X^2 + 3X + 5 \\ & -(2X^2 - 2X) \\ \hline & 5X + 5 \\ & -(5X - 5) \\ \hline & 10 \end{array}$$

6)
$$\begin{array}{r} 2X + 5 \\ \times\ X - 1 \\ \hline -2X - 5 \\ 2X^2 + 5X \\ \hline 2X^2 + 3X - 5 \\ + 10 \\ \hline 2X^2 + 3X + 5 \end{array}$$

7) $\pm 2X$

8) $\sqrt{4(10)^2} = \sqrt{400} = \pm 20$

$\pm 2(10) = \pm 20$

9)
$$\begin{array}{r} 45 \\ 45 \\ \hline 2025 \end{array}$$

10)
$$\begin{array}{r} 37 \\ 33 \\ \hline 1221 \end{array}$$

11) $(X - 7)(X - 11)$

12)
$$\begin{array}{r} X - 7 \\ \times\ X - 11 \\ \hline -11X + 77 \\ X^2 - 7X \\ \hline X^2 - 18X + 77 \end{array}$$

13) 2^{25}

14) $Y = 3/2X - 3$
slope = 3/2

15) origin

16) $DX + 3D + 2X + 6$

17)
$$\begin{array}{r} 300{,}000{,}000 \\ \times\ 1000 \\ \hline \$\ 300{,}000{,}000{,}000 \text{ given} \end{array}$$

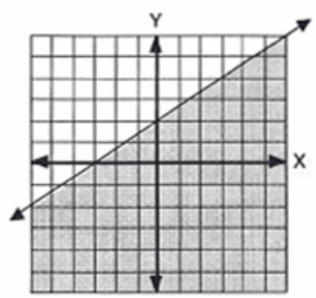
$300 billion is not enough to pay the debt.

18) $5(24Y + 12X = 36$
$12(5Y - 5X = 10)$

$120Y + 60X = 180$
$60Y - 60X = 120$

$180Y = 300$ $\quad 5(5/3) - 5X = 10$
$Y = 5/3$ $\quad X = -1/3$

(-1/3, 5/3)



19) on the graph $(Y \leq 2/3\ X + 2)$

20) yes

25D

1) $(X - 2)(X + 2)$

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

3) $(X - 5)(X + 5)$

4)
$$\begin{array}{r} X - 5 \\ \times\ X + 5 \\ \hline 5X - 25 \\ X^2 - 5X \\ \hline X^2 - 25 \end{array}$$

5)
$$\begin{array}{r|l} & 2X + 3 \\ \hline X + 2 & 2X^2 + 7X + 6 \\ & -(2X^2 + 4X) \\ \hline & 3X + 6 \\ & -(3X + 6) \\ \hline & 0 \end{array}$$

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

7) $X + 5$

8) $10^2 + 10(10) + 25 = 225$

$$\begin{array}{r} 10 + 5 \\ \times\ 10 + 5 \\ \hline 50 + 25 \\ 100 + 50 \\ \hline 100 + 100 + 25 = 225 \end{array}$$

9)
$$\begin{array}{r} 65 \\ 65 \\ \hline 4225 \end{array}$$

10)
$$\begin{array}{r} 78 \\ 72 \\ \hline 5616 \end{array}$$

11) $(X + 4)(X - 1)$

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

13) $(7^2)^3 = 7^6$

14) $Y = -2X - 1/2$
slope = -2

15) $A(C + D + E) + B(C + D + E) =$
$AC + AD + AE + BC + BD + BE$

16)
$$\begin{array}{r} 300{,}000{,}000 \\ \times\ 10{,}000 \\ \hline \$\ 3{,}000{,}000{,}000{,}000 \text{ given} \end{array}$$

$3 trillion is not enough to pay the debt.

17 and 18)

Rate	Time
20 mph	1 hr.
10 mph	2 hrs.
5 mph	4 hrs.
4 mph	5 hrs.
1 mph	20 hrs.

Notice that the rate times the time always equals the distance traveled.

19 and 20)

Rate	Time
12 mph	1 hr.
6 mph	2 hrs.
4 mph	3 hrs.
3 mph	4 hrs.
2 mph	6 hrs.
1 mph	12 hrs.