

① D 8×10^1

② C 2.32620×10^5

③ D 2530000

④ A 0.006×5

⑤ No answer

⑥ D 5×10^{-4} 6×10^{-2}
 $.56, .065, .060, .006, .0005$

⑦ B $5.5 \times 10^{13} + 9 \times 10^{12}$
 exponents must be the same and they stay the same
 $5.5 \times 10^{13} + .9 \times 10^{13}$
 6.4×10^{13}

⑧ C 1720

⑨ C $5.97 \times 10^{24} + 7.35 \times 10^{22}$
 $5.97 \times 10^{24} + .0735 \times 10^{24}$
 6.0435×10^{24}

⑩ A $.003 \times 24$

⑪ C $5^{-3} \rightarrow \frac{1}{5^3} \rightarrow \frac{1}{125}$

⑫ B $3^4 = 81$
 $3 \times 3 \times 3 \times 3$

⑬ A $.0006 \leftarrow 6 \times 10^{-4}$
 $.0600 \leftarrow 6 \times 10^{-2}$
 $.0650 \leftarrow$
 $.65$

⑭ D 8980000

⑮ B

⑯ C

⑰ C $\begin{array}{r} 52 \\ + 36 \\ \hline 88 \end{array}$ $\begin{array}{r} 180 \\ - 88 \\ \hline 92 \end{array}$

⑱ B $\frac{30}{21} = \frac{20}{x}$ reduce $\frac{10}{7} = \frac{20}{x}$

⑲ C $\begin{array}{r} 3x + 40 \\ -3x \\ \hline 40 \\ +72 \\ \hline 112 \\ \frac{112}{4} = \frac{4x}{4} \\ 28 = x \end{array}$

$7(28) - 72$
 $196 - 72 = 124$

⑳ C $\begin{array}{r} 3x + 3x + 20 = 110 \\ 6x + 20 = 110 \\ -20 \\ \hline 6x = 90 \\ \frac{6x}{6} = \frac{90}{6} \\ x = 15 \end{array}$

$3(15) = 45$

㉑ C $3(15) + 20$
 $45 + 20 = 65$

㉒ D $\frac{180}{-110} = \frac{18}{-11}$

㉓ C $\frac{3}{9} = \frac{4}{h}$ reduce $\frac{1}{3} = \frac{4}{h}$

㉔ A $\begin{array}{r} 2x + 3x + x + 60 = 180 \\ 6x + 60 = 180 \\ -60 \\ \hline 6x = 120 \\ \frac{6x}{6} = \frac{120}{6} \\ x = 20 \end{array}$

㉕ C $4 \overline{)228}$

㉖ B

㉗ D

㉘ A

㉙ B

㉚ C

㉛ B

㉜ A

㉝ A

㉞ B

㉟ B $\frac{11}{2} \rightarrow$

㊱ D $\frac{27}{1} \rightarrow$

㊲ D $\frac{\Delta y}{\Delta x} = \frac{5}{2}$

㊳ B $\frac{\Delta y}{\Delta x} = \frac{-6}{1}$

㊴ A

㊵ slope = 3
 $x = 2$
 $y = 4$

$y = mx + b$
 $4 = 3(2) + b$
 $4 = 6 + b$
 -6
 $-2 = b$

㊶ A

㊷ A

㊸ D $\frac{\Delta y}{\Delta x} = \frac{4}{2} \rightarrow 2$
 $x = 0$
 $y = 2$

$y = mx + b$
 $2 = 2(0) + b$
 $2 = b$

㊹ A

㊺ B $\frac{\Delta y}{\Delta x} = \frac{6}{2} \rightarrow 3$ $b = -7$
 $y = 3x + -7$

㊻ C

㊼ A $\frac{16}{2} = 8$

㊽ C $\begin{array}{r} 2x - 15 = -3x + 5 \\ +3x \\ \hline 5x - 15 = 5 \\ +15 \\ \hline 5x = 20 \\ x = 4 \end{array}$

㊾ A $\begin{array}{r} 7p + 4 = 3p - 12 \\ -3p \\ \hline 4p + 4 = -12 \\ -4 \\ \hline 4p = -16 \\ \frac{4p}{4} = \frac{-16}{4} \\ p = -4 \end{array}$

㊿ A $\begin{array}{r} 6x + 40 = 3x + 70 \\ -3x \\ \hline 3x + 40 = 70 \\ -40 \\ \hline 3x = 30 \\ \frac{3x}{3} = \frac{30}{3} \\ x = 10 \end{array}$

① $3.5(x-2) = 12 - .5x$

A $\begin{array}{r} 35(x-2) = 120 - 5x \\ 35x - 70 = 120 - 5x \\ +5x \\ \hline 40x - 70 = 120 \\ +70 \\ \hline 40x = 190 \\ \frac{40x}{40} = \frac{190}{40} \\ x = 4.75 \end{array}$

52) B

$$\begin{array}{r} 8n + 9 = -n + 5 \\ +n \quad \quad \quad +n \\ \hline 9n + 9 = 5 \\ -9 \quad \quad \quad -9 \\ \hline \frac{9n}{9} = \frac{-4}{9} \\ n = -\frac{4}{9} \end{array}$$

53) B

$$\begin{array}{r} -5x + 25 = -8x + 10 \\ +8x \quad \quad \quad +8x \\ \hline 3x + 25 = 10 \\ -25 \quad \quad \quad -25 \\ \hline 3x = -15 \\ \frac{3x}{3} = \frac{-15}{3} \\ x = -5 \end{array}$$

54) D same slope + different y intercept

55) B

56) A

$$\begin{array}{r} 10.50x \geq -1.25x - 800 \\ +1.25x \quad \quad \quad +1.25x \\ \hline 11.75x \geq -800 \\ \frac{11.75x}{11.75} \geq \frac{-800}{11.75} \\ x \geq 68 \end{array}$$

57) B

$$\begin{array}{r} 1.95x + 125 = 12.50x \\ -1.95x \quad \quad \quad -1.95x \\ \hline 125 = 10.55x \\ \frac{125}{10.55} = \frac{10.55x}{10.55} \\ x \approx 11.84 \end{array}$$

58) C

$$\begin{array}{l} \frac{d}{2} = \frac{d}{2} \\ x = \frac{d}{2} \\ 2.5\left(\frac{d}{2}\right) = d + 20 \\ 1.25d = d + 20 \\ -d \quad \quad \quad -d \\ \hline .25d = 20 \\ \frac{.25d}{.25} = \frac{20}{.25} \\ d = 80 \\ x = \frac{80}{2} \\ x = 40 \end{array}$$

59) C

$$10 + 20x = 25 + 15x$$

60) D

$$\begin{array}{r} 800 - 30x = 150 + 20x \\ +30x \quad \quad \quad +30x \\ \hline 800 = 150 + 50x \\ -150 \quad \quad \quad -150 \\ \hline 650 = 50x \\ \frac{650}{50} = \frac{50x}{50} \\ 13 = x \end{array}$$

61) D

62) B

$$\begin{array}{r} 3p + 200 = 8p \\ -3p \quad \quad \quad -3p \\ \hline 200 = 5p \\ \frac{200}{5} = \frac{5p}{5} \\ 40 = p \end{array}$$

63) C

$$\begin{array}{r} 50 + 80x = 75 + 70x \\ 50 + 80(3) \quad \quad \quad 75 + 70(3) \\ 50 + 240 \quad \quad \quad 75 + 210 \\ 290 \quad \quad \quad 285 \end{array}$$

64) C

$$\begin{array}{r} 101(2.5) + 207.85 \\ 252.5 + 207.85 \\ 460.35 \end{array}$$

65) B

66) D

$$\begin{array}{r} -4y + 8x = -12 \\ -2x \quad \quad \quad -5x \\ \hline -4y = -8x - 12 \\ \frac{-4y}{-4} = \frac{-8x - 12}{-4} \\ y = 2x + 3 \\ \text{inf solutions} \end{array}$$

67) D

$$\frac{9x}{9} = \frac{18}{9} \\ x = 2$$

68) D

$$\begin{array}{r} -4x + 10y = -24 \\ 4x + 3y = -2 \\ \hline 13y = -26 \\ \frac{13y}{13} = \frac{-26}{13} \\ y = -2 \end{array}$$

69) C

$$\begin{array}{r} 7x + -2x - 6 = 14 \\ 5x - 6 = 14 \\ +6 \quad \quad \quad +6 \\ \hline 5x = 20 \\ \frac{5x}{5} = \frac{20}{5} \\ x = 4 \end{array}$$

70) A

$$\begin{array}{r} 3x + y = -2 \\ -3x \quad \quad \quad -3x \\ \hline y = -3x - 2 \end{array}$$

71) A

$$\begin{array}{r} x + y = -2 \\ -2 \quad \quad \quad -2 \\ \hline x = -2 - 2y \end{array}$$

72) B

73) B

$$\begin{array}{r} 2\left(-\frac{1}{2}x - 6\right) - 3x = -8 \\ -x - 12 - 3x = -8 \\ -4x - 12 = -8 \\ +12 \quad \quad \quad +12 \\ \hline -4x = 4 \\ \frac{-4x}{-4} = \frac{4}{-4} \\ x = -1 \end{array}$$

$$\begin{array}{l} y = -\frac{1}{2}x - 6 \\ y = -\frac{1}{2}(-1) - 6 \\ y = \frac{1}{2} - 6 \\ y = -5.5 \end{array}$$

