5.2 page 260 56-78 even
92, 93, 95

56 $5x^2+5x-10$

$5(x^2+x-2)$

$5(x+2)(x-1)$

58 $3x^2+54x+243$

$3(x^2+18x+81)$

$3(x+9)(x+9) = \boxed{3(x+9)^2}$

60 $112a^2-168a+63$

$7(16a^2-24a+9)$

$7(4a-3)(4a-3) = \boxed{7(4a-3)^2}$

62 $6t^2-36t$

$6t(t-6)$

64 $2d^2+12d-16$

$2(d^2+6d-8)$

66 $x^2+19x+88=0$

$(x+8)(x+11)=0$

$x+8=0$ or $x+11=0$

$-8 \quad -8 \qquad -11 \quad -11$

$\boxed{x=-8 \text{ or } x=-11}$

68 $8x^2-6x-5=0$

$(2x+1)(4x-5)=0$

$2x+1=0$ or $4x-5=0$

$-1 \quad -1 \qquad +5 \quad +5$

$\frac{2x}{2}=\frac{-1}{2} \qquad \frac{4x}{4}=\frac{5}{4}$

$\boxed{x=-\frac{1}{2} \text{ or } x=\frac{5}{4}}$

70 $9m^2-30m+25=0$

$(3m-5)(3m-5)=0$

$3m-5=0$ or $3m-5=0$

$+5 \quad +5 \qquad +5 \quad +5$

$\frac{3m}{3}=\frac{5}{3} \qquad \frac{3m}{3}=\frac{5}{3}$

$\boxed{m=\frac{5}{3} \text{ or } m=\frac{5}{3}}$

72 $40a^2+4a=0$

$4a(10a+1)=0$

$\frac{4a}{4}=\frac{0}{4}$ or $10a+1=0$

$-1 \quad -1$

$\frac{10a}{10}=\frac{-1}{10}$

$\boxed{a=0 \quad \text{or} \quad a=-\frac{1}{10}}$

74 $x^2+9x=-20$

$x^2+9x+20=0$

$(x+5)(x+4)=0$

$x+5=0$ or $x+4=0$

$-5 \quad -5 \qquad -4 \quad -4$

$\boxed{x=-5 \quad \text{or} \quad x=-4}$

76 $5p^2 - 25 = 4p^2 + 24$

$-4p^2 - 24 \quad -4p^2 - 24$

$p^2 - 49 = 0$

$(p-7)(p+7) = 0$

$p - 7 = 0$ or $p + 7 = 0$

$+7 \quad +7 \qquad -7 \quad -7$

$\boxed{p = 7 \quad \text{or} \quad p = -7}$

78 $2q^2 + 4q - 1 = 7q^2 - 7q + 1$

$-7q^2 + 7q - 1 \quad -7q^2 + 7q - 1$

$-5q^2 + 11q - 2 = 0$

$-(5q^2 - 11q + 2) = 0$

$-(5q - 1)(q - 2) = 0$

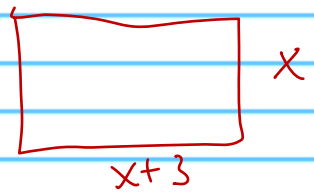
$5q - 1 = 0$ or $q - 2 = 0$

$+1 \quad +1 \qquad +2 \quad +2$

$\frac{5q}{5} = \frac{1}{5}$

$\boxed{q = \frac{1}{5} \quad \text{or} \quad q = 2}$

92 Area = 40



$$40 = x \cdot (x+3)$$

$$40 = x^2 + 3x$$

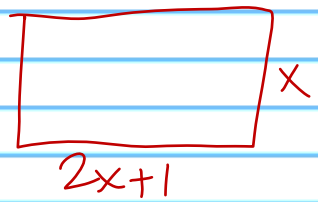
$$x^2 + 3x - 40 = 0$$

$$(x-5)(x+8) = 0$$

$$x - 5 = 0 \quad \text{or} \quad x + 8 = 0$$
$$+5 \quad +5 \qquad\qquad -8 \quad -8$$

$$\boxed{\boxed{x = 5} \quad \text{or} \quad x = -8}$$

93 Area = 105



$$105 = x(2x+1)$$

$$105 = 2x^2 + x$$

$$2x^2 + x - 105 = 0$$

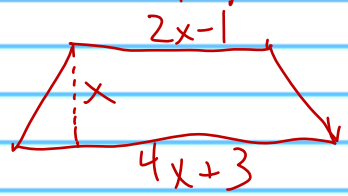
$$(2x+15)(x-7) = 0$$

$$2x + 15 = 0 \quad \text{or} \quad x - 7 = 0$$
$$-15 \quad -15 \qquad\qquad +7 \quad +7$$

$$\frac{2x}{2} = \frac{-15}{2}$$

$$\boxed{x = -\frac{15}{2} \quad \text{or} \quad \boxed{x = 7}}$$

95 Area = 114



$$114 = \frac{1}{2} \cdot x \cdot (2x-1+4x+3)$$

$$114 = \frac{1}{2} \cdot x \cdot (6x+2)$$

$$114 = \frac{1}{2}x \cdot (6x+2)$$

$$114 = 3x^2 + x$$

$$3x^2 + x - 114 = 0$$

$$(3x+19)(x-6) = 0$$

$$3x+19=0 \quad \text{or} \quad x-6=0$$

$$-19 \quad -19 \qquad\qquad +6 \quad +6$$

$$\frac{3x}{3} = \frac{-19}{3}$$

$$x = \frac{-19}{3} \quad \text{or} \quad \boxed{x=6}$$