1. Answer each of the following questions, showing all working:

(**1**) Write $\sqrt{60}$ in simplest form.

(**2**) Find y if $\sqrt{245} = y\sqrt{5}$

(**3**) Write $-5 < x \leq 2$ in interval form and mark it on a real line.

(**4**) Write the interval $[-6.2, \infty)$ using an inequality sign and mark it on a real line.

(**5**) Find y if $\sqrt{8y} = 12\sqrt{3}$

(**6**) Find y, if $3 = -3y$

(**7**) Find z, if $6z + 5 = 1$

(**8**) Expand $(-7 - 3y)(-3y)$

(**9**) Find y, if $|-3y - 2| = 2$

(**10**) Expand and simplify $(\sqrt{9} + \sqrt{3})(\sqrt{8} + \sqrt{9})$

(**11**) Let $z = 5$. Find y, if $z = 3y + 5$

(**12**) Expand and simplify $(\sqrt{3} + \sqrt{6})\sqrt{5}$

(**13**) Expand $(3 - 3z)(6 + z)$

(**14**) Find y, if $-5 = \dfrac{2y}{-4} + 5$

(**15**) Find x, if $\dfrac{-3}{2x} + 4 = 5$

(**16**) Find x, if $x = \dfrac{-4}{10} + \dfrac{-13}{10}$

2. Answer each of the following questions, showing all working:

(**1**) Write $\sqrt{420}$ in simplest form.

(**2**) Find x if $\sqrt{12} = x\sqrt{3}$

(**3**) Write $-4 < x \leq -2.9$ in interval form and mark it on a real line.

(**4**) Write the interval $[9.2, 13.9]$ using an inequality sign and mark it on a real line.

(**5**) Find x if $\sqrt{80x} = 10\sqrt{4}$

(**6**) Find x, if $6 = -2x - 5$

(**7**) Find y, if $3y = 4$

(**8**) Expand $-4z(-7 + 5z)$

(**9**) Find y, if $|5y + 3| = 4$

(**10**) Expand and simplify $(\sqrt{6} + \sqrt{6})(\sqrt{6} - \sqrt{6})$

(**11**) Let $y = 2$. Find z, if $y = -5z - 6$

(**12**) Expand and simplify $\sqrt{7}(\sqrt{2} + \sqrt{3})$

(**13**) Expand $(1 - 6y)(3 + 5y)$

(**14**) Find y, if $\dfrac{5y}{-2} + 5 = 6$

(**15**) Find x, if $\dfrac{-6}{-4x} - 4 = -5$

(**16**) Find y, if $y = \dfrac{7}{13} + \dfrac{-5}{-10}$

3. Answer each of the following questions, showing all working:

  (1) Write $\sqrt{245}$ in simplest form.

  (2) Find y if $\sqrt{50} = y\sqrt{2}$

  (3) Write $-1 \le x \le 7$ in interval form and mark it on a real line.

  (4) Write the interval $(-9, -7]$ using an inequality sign and mark it on a real line.

  (5) Find x if $\sqrt{192x} = 8\sqrt{15}$

  (6) Find x, if $6 = 6x$

  (7) Find x, if $4x + 5 = 6$

  (8) Expand $3y\,(2 - 2y)$

  (9) Find x, if $|-5x - 1| = 0$

  (10) Expand and simplify $\left(\sqrt{4} - \sqrt{8}\right)\left(\sqrt{6} - \sqrt{4}\right)$

  (11) Let $z = 3$. Find y, if $z = 2y - 2$

  (12) Expand and simplify $\left(\sqrt{2} - \sqrt{2}\right)\sqrt{7}$

  (13) Expand $(4z - 7)(-4z - 3)$

  (14) Find z, if $\dfrac{5z}{-2} + 6 = 4$

  (15) Find y, if $-3 + \dfrac{-2}{-4y} = -4$

  (16) Find x, if $x = \dfrac{12}{8} \div \dfrac{-10}{14}$

4. Answer each of the following questions, showing all working:

  (1) Write $\sqrt{245}$ in simplest form.

  (2) Find x if $\sqrt{8} = x\sqrt{2}$

  (3) Write $-8 \le x < 2.0$ in interval form and mark it on a real line.

  (4) Write the interval $[-7.6, \infty)$ using an inequality sign and mark it on a real line.

  (5) Find x if $\sqrt{32x} = 8\sqrt{12}$

  (6) Find y, if $0 = 4y + 2$

  (7) Find x, if $-2x + 3 = 6$

  (8) Expand $4y\,(-5 - 5y)$

  (9) Find y, if $|5y - 4| = 5$

  (10) Expand and simplify $\left(\sqrt{8} + \sqrt{3}\right)\left(\sqrt{4} + \sqrt{9}\right)$

  (11) Let $z = 2$. Find y, if $z = 6y + 1$

  (12) Expand and simplify $\sqrt{4}\left(\sqrt{7} - \sqrt{8}\right)$

  (13) Expand $(-3 + 5x)(3x - 1)$

  (14) Find x, if $\dfrac{2x}{-2} = 1$

  (15) Find y, if $\dfrac{4}{-4y} - 1 = 6$

  (16) Find x, if $x = \dfrac{10}{15} \div \dfrac{18}{12}$

5. Answer each of the following questions, showing all working:

  (1) Write $\sqrt{200}$ in simplest form.

(**2**) Find x if $\sqrt{192} = x\sqrt{3}$

(**3**) Write $-9 < x < -5$ in interval form and mark it on a real line.

(**4**) Write the interval $(-7, 13]$ using an inequality sign and mark it on a real line.

(**5**) Find x if $\sqrt{4x} = 6\sqrt{13}$

(**6**) Find x, if $2 = -3x + 3$

(**7**) Find x, if $2x - 3 = -1$

(**8**) Expand $6z(-5 - z)$

(**9**) Find z, if $|-5z - 5| = 5$

(**10**) Expand and simplify $\left(\sqrt{9} + \sqrt{4}\right)\left(\sqrt{6} + \sqrt{9}\right)$

(**11**) Let $x = -1$. Find z, if $5z + 3 = x$

(**12**) Expand and simplify $\left(\sqrt{2} + \sqrt{5}\right)\sqrt{7}$

(**13**) Expand $(5 - 2x)(6 + 6x)$

(**14**) Find y, if $\dfrac{-y}{-4} + 5 = 2$

(**15**) Find y, if $\dfrac{-6}{-3y} + 1 = -2$

(**16**) Find x, if $x = \dfrac{-10}{8} \times \dfrac{-15}{-18}$