Pg 546/ Q43/

① $3x^2 - 4x - 1 = 0$
(a, b, c)

② $a = 3,\ b = -4,\ c = -1$

③ $x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(3)(-1)}}{2(3)}$

④ $x = \frac{4 \pm \sqrt{16 + 12}}{6}$

⑤ $x = \frac{4 \pm \sqrt{28}}{6}$

⑥ $x = \frac{4 \pm \sqrt{4 \cdot 7}}{6}$

⑦ $x = \frac{4 \pm \sqrt{4}\sqrt{7}}{6}$

⑧ $x = \frac{4 \pm 2\sqrt{7}}{6}$

⑨ $x = \frac{2(2 \pm \sqrt{7})}{2 \cdot 3}$

⑩ $x = \frac{2 + \sqrt{7}}{3}$

⑪ $x = \frac{2 - \sqrt{7}}{3}$

Pg 541 / Q32:

① $5\sqrt{2}(4\sqrt{8} - 2\sqrt{12})$

② $5\sqrt{2}(4\sqrt{4}\sqrt{2} - \sqrt{4}\sqrt{3})$

③ $5\sqrt{2}(4 \cdot 2\sqrt{2} - 2\sqrt{3})$

④ $5 \cdot 4 \cdot 2\sqrt{2}\sqrt{2} - 5(2)\sqrt{2}\sqrt{3}$

⑤ $20 \cdot 2 \cdot 2 - 20\sqrt{6}$

⑥ $80 - 20\sqrt{6}$

or

① $5\sqrt{2}(4\sqrt{8} - 2\sqrt{12})$

② $5\sqrt{2} \cdot 4\sqrt{8} - 5\sqrt{2} \cdot 2\sqrt{2}$

③ $20\sqrt{16} - 10\sqrt{4}$

④ $20 \cdot 4 - 10\sqrt{4 \cdot 6}$

⑤ $80 - 10\sqrt{4}\sqrt{6}$

⑥ $80 - 10 \cdot 2\sqrt{6}$

⑦ $80 - 20\sqrt{6}$

Page 523/ Q12:

① $(6z^3 - 5y^4)(6z^3 - 5y^4)$

② $(6z^3)^2 - (5y^4)^2$

③ $36z^6 - 25y^8$

P549/Q28

① $\sqrt{\frac{2n-4}{8}} = 2$

② $\sqrt{\frac{2(n-2)}{8}} = 2$

③ $\sqrt{\frac{n-2}{4}} = 2$

④ $\sqrt{\left(\frac{n-4}{2}\right)^2} = 2^2$

⑤ $\frac{n-4}{4} = 4$

⑥ $n-4 = 16$

⑦ $n = 16+4$

P549/Q27

① $\sqrt{x}+6 = \sqrt{16x}$

② $\sqrt{x}+6 = +6\sqrt{x}$

③ $\sqrt{x}+6 = 4\sqrt{x}$

④ $6 = 4\sqrt{x} - \sqrt{x}$

⑤ $6 = 3\sqrt{x}$

⑥ $6/3 = \sqrt{x}$

⑦ $\sqrt{x} = 2$

⑧ $(\sqrt{x})^2 = 2^2$

⑨ $x = 4$

P549/7

① $r = \sqrt{\frac{V}{\pi h}}$

② $r^2 = \sqrt{\frac{V}{\pi h}}^2$

③ $r^2 = \frac{V}{\pi h}$

④ $\pi h r^2 = V$

P549/8

① $t = \sqrt{\frac{2s}{g}}$

② s distance

③ $t^2 = \sqrt{\frac{2s}{g}}^2$

④ $t^2 = \frac{2s}{g}$

⑤ $gt^2 = 2s$

⑥ $s = \frac{gt^2}{2}$

⑦ plug in numbers

⑧

① $\sqrt{5y-2} + 3 = 9$

② $\sqrt{5y-2} = 9-3$

③ $\sqrt{5y-2} = 6$

④ $5y-2 = 36$

⑤ $5y = 38$

⑥ $y = \frac{38}{5}$

① $\sqrt{20y^2 - 13y} = 5y$

② $20y^2 - 13y = 25y^2$

③ $20y^2 - 25y^2 - 13y = 0$

④ $-5y^2 - 13y = 0$

⑤ $-y(+5y+13) = 0$

⑥ $-y = 0$ $\quad 5y+13 = 0$

$5y = -13$

① $y = 0$ $\quad y = -\frac{13}{5}$ FALSE

LOOKS

S49/Q21

① $\sqrt{20\left(-\frac{13}{5}\right)^2 - 13\left(-\frac{13}{5}\right)}$

② $\sqrt{20\left(\frac{169}{25}\right) + \frac{169}{5}}$

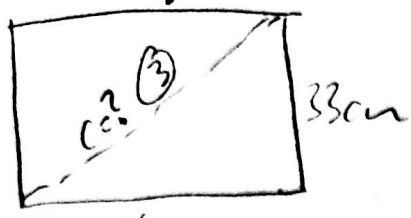
③ $\sqrt{\frac{4(169)}{5} + \frac{169}{5}}$

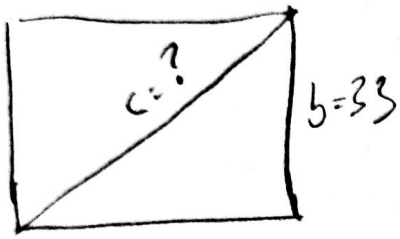
④ $\sqrt{169} \stackrel{?}{=} 5\left(-\frac{13}{5}\right)$

$13 \neq -13$

FALSE

P531/Q1 Rectangle 33cm by 56cm:

① 

④ 

⑤ $56^2+33^2=c^2$

⑥ $(50+6)^2+(30+3)^2=c^2$

⑦ $2500+600+36+900+180+9=c^2$

⑧ $3400+600+36+189=c^2$

⑨ $4225=c^2$

⑩ $c^2=\sqrt{4225}$

⑪ $c=65$

P547:

① $\sqrt{5x+1}+2=6$

② $\sqrt{5x+1}=6-2$

③ $\sqrt{5x+1}=4$

④ $\sqrt{5x+1}^2=4^2$

⑤ $5x+1=16$

⑥ $5x=16-1$

⑦ $5x=15$

⑧ $\frac{5x}{5}=\frac{15}{5}$

⑨ $x=3$

check: ?

① $\sqrt{5\cdot3+1}+2\stackrel{?}{=}6$

② $\sqrt{15+1}+2\stackrel{?}{=}6$

③ $\sqrt{16}+2\stackrel{?}{=}6$

④ $4+2\stackrel{?}{=}6$

⑤ $6=6$ TRUE

① $\sqrt{11x^2-63}-2x=0$ P548

② $\sqrt{11x^2-63}=2x$

③ $\sqrt{11x^2-63}^2=(2x)^2$

④ $11x^2-63=4x^2$

⑤ $7x^2=63$

⑥ $x^2=\frac{63}{7}$

⑦ $x^2=9$

⑧ $x=\pm3$

$x=3$ works ✓

$x=-3$:

① $\sqrt{11(-3)^2-63}-2(-5)\stackrel{?}{=}0$

② $\sqrt{99-63}+6\stackrel{?}{=}0$

③ $\sqrt{36}+6\stackrel{?}{=}0$

④ $6+6\stackrel{?}{=}0$ $x=-3$ FAILS

⑤ $12\neq0$

P534/Q3)

① $\sqrt{50a^5(b+4)^2}$

② $\sqrt{25\cdot2a^4a(b+4)^2}$

③ $5a^2\sqrt{2a}(b+4)$

$b\geq0$

P544/ Q33

① $\frac{4+2\sqrt{2}}{2\sqrt{5}-3}$

② $\frac{4+2\sqrt{2}}{2\sqrt{5}-3}\left(\frac{2\sqrt{5}+3}{2\sqrt{5}+3}\right)$

③ $\frac{4(2\sqrt{5})+4(3)+2\sqrt{2}\cdot 2\sqrt{5}+2\sqrt{2}\cdot 3}{(2\sqrt{5})^2-3^2}$

④ $\frac{8\sqrt{5}+12+4\sqrt{10}+6\sqrt{2}}{2^2\sqrt{5}^2-9}$

⑤ $\frac{8\sqrt{5}+4\sqrt{10}+6\sqrt{2}+12}{4(5)-9}$

⑥ $\frac{8\sqrt{5}+4\sqrt{10}+6\sqrt{2}+12}{20-9}$

⑦ $\frac{8\sqrt{5}+4\sqrt{10}+6\sqrt{2}+12}{11}$

⑧ $\frac{2[4\sqrt{5}+2\sqrt{10}+3\sqrt{2}+6]}{11}$

P541/ Q35

① $\sqrt{\frac{x^2}{16}+\frac{x^2}{25}}$

② $\sqrt{x^2\left(\frac{1}{16}+\frac{1}{25}\right)}$

③ $\sqrt{x^2}\sqrt{\frac{25+16}{25\cdot 16}}$

④ $x\sqrt{\frac{20+10+5+6}{(20+5)(10+6)}}$

⑤ $x\sqrt{\frac{41}{200+100+50+30}}$

⑥ $x\sqrt{\frac{41}{400}}$

P541/ Q17

① $-\sqrt{338}-\sqrt{200}+\sqrt{162}$

② $\frac{338}{2}=\frac{300}{2}+\frac{30}{2}+\frac{8}{2}=150+15+4=169$

(2b) $=\sqrt{169\cdot 2}=\sqrt{100\cdot 2}+\sqrt{18\cdot 9}$

③ $-\sqrt{169}\sqrt{2}-\sqrt{100}\sqrt{2}+\sqrt{81\cdot 2}$

④ $-13\sqrt{2}-10\sqrt{2}+9\sqrt{2}$

⑤ $(-13-10+9)\sqrt{2}$

⑥ $-14\sqrt{2}$

52/ P539

① $(5\sqrt{2x^3})^3$

② $5^3\sqrt{2x^3}^3$

③ $125\sqrt{2x^3}\sqrt{2x^3}\sqrt{2x^3}$

④ $125\ 2x^3\sqrt{2x^3}$

⑤ $250\ x^3\sqrt{2x^2x}$

⑥ $250\ x^3\cdot x\sqrt{2x}$

⑦ $250\ x^4\sqrt{2x}$

P538 #19

① $\sqrt{3\frac{3}{5}}\cdot\sqrt{2\frac{1}{2}}$

② $\sqrt{\frac{18}{5}\cdot\frac{5}{2}}$

③ $\sqrt{9}$ ④ 3