

Ala2T

Chap 6

D1

p417 #10, 13, 21-32, 39-41, 53-57, 60, 62

(10) $15^{\frac{3}{8}}$ (13) $(\sqrt[5]{14})^2$ (21) $\sqrt[6]{64} = 2$

(22) $8^{\frac{1}{3}} = \sqrt[3]{8} = 2$ (23) $16^{\frac{3}{2}} = (\sqrt[2]{16})^3 = 4^3 = 64$

(24) $\sqrt[3]{-125} = -5$ (25) $27^{\frac{2}{3}} = (\sqrt[3]{27})^2 = 9$

(26) $(-243)^{\frac{1}{5}} = \sqrt[5]{-243} = -3$ (27) $(\sqrt[3]{8})^{-2} = 2^{-2} = \frac{1}{4}$

(28) $(\sqrt[3]{-64})^4 = 256$ (29) $(\sqrt[4]{16})^{-7} = 2^{-7} = \frac{1}{128}$

(30) $25^{\frac{3}{2}} = (\sqrt{25})^3 = 5^3 = 125$ (31) $64^{-\frac{2}{3}} = (\sqrt[3]{64})^{-2} = 4^{-2} = \frac{1}{16}$

(32) $\frac{1}{81^{-\frac{3}{4}}} = 81^{\frac{3}{4}} = (\sqrt[4]{81})^3 = 3^3 = 27$

~~calc~~

(39) 12

(40) 50.57

(41) .01

$(\sqrt[4]{187})^3 = 187^{\frac{3}{4}}$

P
E
m
D
A
s

(60) $V = \frac{4}{3}\pi r^3$

$905 = \frac{4}{3}\pi r^3$

$\sqrt[3]{\frac{3 \cdot 905}{4\pi}} = r$

$r = 6 \text{ cm}$

(61) $232 = 4\pi r^2$

$\sqrt{\frac{232}{4\pi}} = r$

$r = 4.3$

(62) $r = \left(\frac{P_2}{P_1}\right)^{\frac{1}{\gamma}} - 1$

Butter $r = \left(\frac{2.195}{.7420}\right)^{\frac{1}{\gamma}} - 1 = 2.79\%$

P2 p 424 43-55 odd

(43) $x^{\frac{1}{4}} x^{\frac{1}{3}}$
 $x^{\frac{1}{12}}$

fraction work
 $\frac{3}{3} \cdot \frac{1}{4} + \frac{1}{3} \cdot \frac{4}{4}$
 $\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$

fraction work
 $\frac{2}{5} - \frac{5}{5} = x^{-\frac{3}{5}}$
 x
 $y^{\frac{2}{3} + \frac{1}{3}} = y^{\frac{4}{3}}$

(45) $\sqrt[4]{81x^4} = 3x$

(47) $\frac{x^{\frac{2}{5}} y^1}{x y^{-\frac{1}{3}}}$

$\frac{y^{\frac{4}{3}}}{x^{\frac{3}{5}}}$

(49) $(\sqrt[3]{x^2} \cdot \sqrt[6]{x^4})^{-3}$
 $(x^{\frac{2}{3}} \cdot x^{\frac{4}{6}})^{-3}$
 $(x^{\frac{4}{6}} \cdot x^{\frac{4}{6}})^{-3}$
 $(x^{\frac{8}{6}})^{-3} = x^{-\frac{24}{6}} = \frac{1}{x^4}$

(51) $\sqrt{49x^5} = 7x^2\sqrt{x}$

(53) $\sqrt[4]{12x^2y^6z^{12}}$
 $yz^3\sqrt[4]{12x^2y^2}$

(55) $x^2z^4\sqrt{xy}$

D3 p424 32-40, 60-64

$$(32) 2\sqrt[4]{3} + 7\sqrt[4]{3} = \boxed{9\sqrt[4]{3}}$$

$$(33) \frac{3}{5}\sqrt[3]{5} - \frac{1}{5}\sqrt[3]{5} = \boxed{\frac{2}{5}\sqrt[3]{5}}$$

$$(34) \boxed{10\sqrt[3]{2}}$$

$$(35) \boxed{\frac{4}{8}\sqrt[4]{7}}$$

$$(36) 6\sqrt[3]{5} + 4\sqrt[3]{625}$$

$$6\sqrt[3]{5} + 4\sqrt[3]{125 \cdot 5}$$

$$6\sqrt[3]{5} + 20\sqrt[3]{5} = \boxed{26\sqrt[3]{5}}$$

$$(37) -6\sqrt[7]{2} + 2\sqrt[7]{256}$$

$$-6\sqrt[7]{2} + 2\sqrt[7]{128 \cdot 2}$$

$$-6\sqrt[7]{2} + 4\sqrt[7]{2} = \boxed{-2\sqrt[7]{2}}$$

$$(38) 12\sqrt[4]{2} - 7\sqrt[4]{512}$$

$$256 \cdot 2$$

$$12\sqrt[4]{2} - 28\sqrt[4]{2} = \boxed{-16\sqrt[4]{2}}$$

$$(40) 5\sqrt[3]{48} - \sqrt[3]{750}$$

$$125 \cdot 6$$

$$5\sqrt[3]{8 \cdot 6}$$

$$10\sqrt[3]{6} - 5\sqrt[3]{6} = \boxed{5\sqrt[3]{6}}$$

$$(60) \boxed{12\sqrt[5]{x}}$$

$$(61) \frac{2}{4}x^{\frac{3}{2}}$$

$$(62) 9\sqrt[3]{y}$$

$$(63) (x^4y)^{\frac{1}{2}} + (xy^{\frac{1}{4}})^2$$

$$x^2y^{\frac{1}{2}} + x^2y^{\frac{1}{2}} = \boxed{2x^2y^{\frac{1}{2}}}$$

D4 p432 22-25, 28-37, 39, 44, 45

$$\begin{aligned} (22) \quad h(f(-9)) &= \\ f(-9) &= 3(-9) + 2 = -25 \\ h(-25) &= \frac{-25-2}{5} = \boxed{\frac{-27}{5}} \end{aligned}$$

$$\begin{aligned} (23) \quad h(8) &= \frac{8-2}{5} = \frac{6}{5} \\ g\left(\frac{6}{5}\right) &= \left(\frac{6}{5}\right)^2 \\ &= \boxed{\frac{-36}{25}} \end{aligned}$$

$$\begin{aligned} (24) \quad g(5) &= -25 \\ h(-25) &= \boxed{\frac{-27}{5}} \end{aligned}$$

$$\begin{aligned} (25) \quad f(7) &= 23 \\ f(23) &= 3(23) + 2 \\ 69 + 2 &= \boxed{71} \end{aligned}$$

$$\begin{aligned} (28) \quad f(x) &= 3x^{-1} \quad g(x) = 2x-7 \quad f(g(x)) = \\ &= 3(2x-7)^{-1} = \boxed{\frac{3}{2x-7}} \end{aligned}$$

$$\begin{aligned} (29) \quad g(x) &= 2x-7 \\ f(x) &= 3x^{-1} \\ &= \frac{2(3x^{-1})-7}{\frac{6}{x}-7} \end{aligned}$$

$$\begin{aligned} (30) \quad h(x) &= \frac{x+4}{3} \quad f(x) = 3x^{-1} \\ h(f(x)) &= \frac{3x^{-1}+4}{3} = \boxed{\frac{\frac{3}{x}+4}{3}} \end{aligned}$$

$$\begin{aligned} (31) \quad g(x) &= 2x-7 \\ h(x) &= \frac{x+4}{3} \\ g(h(x)) &= 2\left(\frac{x+4}{3}\right) - 7 \\ &= \boxed{\frac{2x+8}{3} - 7} \end{aligned}$$

$$(33) f(f(x)) = (3x^{-1})^{-1} \quad 3x^{-1} = 3(3x^{-1})^{-1}$$

$$\frac{3}{3x^{-1}} = \boxed{x}$$

$$(44) \text{ Cost } C(x) = 60x + 750$$

Sneakers $x(t) = 50t$

$$C(x(t)) = 60(50t) + 750$$

$$\boxed{3000t + 750}$$

$$C(x(5)) = 3000(5) + 750 = 15750$$

making
Shoes of Sneakers made 250 pair
and the cost was \$15750

D5 p442 #3-12 3, 6, 9, 12, 16-20 even
47, 48

③ $y = 4x - 1$

$$x = 4y - 1$$

$$x - 1 = 4y$$

$$\boxed{\frac{x-1}{4} = y}$$

⑥ $y = 10x - 28$

$$x = 10y - 28$$

$$x + 28 = 10y$$

$$\boxed{\frac{x+28}{10} = y}$$

⑨ $y = 5x + \frac{1}{3}$

$$x = 5y + \frac{1}{3}$$

$$\boxed{\frac{x - \frac{1}{3}}{5} = y}$$

⑫

$$\boxed{\frac{x+11}{6} = y}$$

⑬ $f(x) = x + 4$

$$y = x + 4$$

$$x = y + 4$$

$$x - 4 = y$$

$$g(x) = x - 4$$

⑮ $f(x) = \frac{1}{5}x - 1$

$$g(x) = 5x + 5$$

$$y = 5x + 5$$

$$x = 5y + 5$$

$$x - 5 = 5y$$

$$\boxed{\frac{x-5}{5} = y}$$

④⑦ $l = .05w + 3$

$$\boxed{\frac{l-3}{.05} = w}$$

$$l = 6.5$$

$$\boxed{w = 71.6}$$

④⑧ $C = \frac{5}{9}(F - 32)$

$$\boxed{\frac{9}{5}C + 32 = F}$$

$$C = 5 \quad F = 41^\circ$$

$$C = -10 \quad F = 14$$