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1 a) $\frac{x^5}{5} - x^3 + x^2 - x + k$

b) $\frac{x^4}{4} - x^2 + k$

2 a) $\frac{x^6}{8} - \frac{2x^3}{9} + \frac{x}{7} + k$

b) $\frac{x^5}{5} + \frac{5x^4}{4} + k$

3 a) $\int (x^3 + 2x^2 - 8x) dx = \frac{x^4}{4} + \frac{2x^3}{3} - 4x^2 + k$

b) $\frac{x^5}{5} - 2x^3 + 9x + k$

4 a) $\int (4x^4 - 12x^2 + 9) dx = \frac{4x^5}{5} - 4x^3 + 9x + k$

b) $\int (x^{-3/10} - x^{1/6}) dx = \frac{10}{7} \sqrt[10]{x^7} - 6 \sqrt[6]{x^7} + k$

5 a) $\frac{x^2}{4} - \sqrt{x} + k$

b) $\frac{1}{2} e^x - \frac{3}{4} \operatorname{sen} x + k$

6 a) $3 \operatorname{tg} x + k$

b) $\frac{-3}{4} \cos x + \frac{2^x}{4 \ln 2} + k$

7 a) $3 \operatorname{arc tg} x + k$

b) $\frac{e^x - \ln |\cos x|}{3} + k$

8 a) $3 \ln |x| + \frac{x^4}{12} - \frac{2}{3x^3} + k$

b) $\frac{3^x}{\ln 3} - \frac{1}{2x^2} - 2 \ln |x| + k$

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9 a) $\frac{(x^2 + 1)^9}{9} + k$

b) $\frac{1}{2} \int 2x(x^2 - 1)^{1/2} dx = \frac{\sqrt{(x^2 - 1)^3}}{6} + k$

10 a) $-\frac{1}{6} \int -6x(1 - 3x^2)^{1/2} dx = \frac{-\sqrt{(1 - 3x^2)^3}}{9} + k$

b) $\frac{\operatorname{sen}^6 x}{6} + k$

11 a) $\frac{\cos^5 x}{5} + k$

b) $\ln |x^2 + 5| + k$

12 a) $\frac{1}{6} \int \frac{6x}{3x^2 - 2} dx = \frac{1}{6} \ln |3x^2 - 2| + k$

b) $\ln |4x^3 - 2x^2 + 1| + k$

13 a) $\frac{1}{4} \int \frac{12x^2 - 4x}{4x^3 - 2x^2 + 1} dx = \frac{1}{4} \ln |4x^3 - 2x^2 + 1| + k$

b) $\int \cos x (\operatorname{sen} x)^{-6} dx = \frac{-1}{5 \operatorname{sen}^5 x} + k$

14 a) $\ln |\operatorname{sen} x| + k$

b) $\frac{1}{6} \int 6e^{6x+5} dx = \frac{1}{6} e^{6x+5} + k$

15 a) $e^{x^2-3} + k$

b) $\frac{1}{6} \int (6x - 6)e^{3x^2-6x} dx = \frac{1}{6} e^{3x^2-6x} + k$

16 a) $e^{\operatorname{tg} x} + k$

b) $\frac{1}{2} \int (12x^3 - 2) \cos(3x^4 - 2x) dx =$

$= \frac{1}{2} \operatorname{sen}(3x^4 - 2x) + k$

17 a) $\frac{2^{5x}}{5 \ln 2} \ln |\cos x| + k$

b) $3e^{\operatorname{sen} x} + k$

18 a) $\frac{1}{2} \int \frac{2e^{2x}}{e^{2x} + 3} dx = \frac{1}{2} \ln |e^{2x} + 3| + k$

b) $2 \int \frac{1}{2\sqrt{x}} e^{\sqrt{x}} dx = 2e^{\sqrt{x}} + k$

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19 a) $\int (1 + x^{-1/2}) dx = x + 2\sqrt{x} + k$

b) $\int (x^5 + x^4) dx = \frac{x^6}{6} + \frac{x^5}{5} + k$

20 a) $\frac{1}{8} \int 8x^3(2x^4 - 3)^5 dx = \frac{(2x^4 - 3)^6}{48} + k$

b) $\int (\sqrt[3]{3} \cdot x^{-2/3} + \sqrt{2} \cdot x^{-1/2}) dx =$
 $= 3\sqrt[3]{3x} + 2\sqrt{2x} + k$

21 a) $\frac{7x^2}{6} + \frac{3}{7} \ln |x| + k$

b) $\int \left(2x^3 - \frac{x^2}{3} - 4x + \frac{2}{3} \right) dx =$
 $= \frac{x^4}{2} - \frac{x^3}{9} - 2x^2 + \frac{2}{3}x + k$

22 a) $\int 3(x-2)^{-4} dx = \frac{-1}{(x-2)^3} + k$

b) $\frac{1}{2} \int 2(2x+1)^3 dx = \frac{(2x+1)^4}{8} + k$

23 a) $\frac{3\sqrt[3]{(x+1)^5}}{5} + k$

b) $\frac{2\sqrt[3]{\operatorname{sen}^3 x}}{3} + k$

24 a) $\int \cos x (\operatorname{sen} x)^{-1/3} dx = \frac{3\sqrt[3]{\operatorname{sen}^2 x}}{2} + k$

b) $\ln |\operatorname{sen} x - \cos x| + k$

25 a) $\ln |\operatorname{tg} x| + k$

b) $\frac{1}{2} \int \frac{12x^3 - 2}{3x^4 - 2x + 1} dx = \frac{1}{2} \ln |3x^4 - 2x + 1| + k$

26 a) $\ln |e^x + \operatorname{sen} x| + k$

b) $\ln |e^x + e^{-x}| + k$

a) $\frac{1}{2} \int 2x \sin(x^2 - 2) dx = \frac{-\cos(x^2 - 2)}{2} + k$

b) $e^{x^3 - 2x} + k$

a) $\int \frac{1}{x} e^{\ln x} dx = e^{\ln x} + k$

b) $\int \frac{1}{1+x^2} e^{\arctan x} dx = e^{\arctan x} + k$

a) $\frac{1}{2} \int 2x \cdot 3^{x^2+1} dx = \frac{3^{x^2+1}}{2 \ln 3} + k$

b) $\frac{2\sqrt{(1+e^x)^3}}{3} + k$

a) $\frac{-\cos(3x+1) + e^{3x}}{3} + k$

b) $\frac{1}{2} \int 2x (x^2 - 1)^{-3} dx = \frac{-1}{4(x^2 - 1)^2} + k$

a) $\frac{-2^{-x}}{\ln 2} + x \ln x - x + k$

b) $\int (x^{3/2} + 3x + 2\sqrt{x}) dx = \frac{2\sqrt{x^5}}{5} + \frac{3x^2}{2} + \frac{4\sqrt{x^3}}{3} + k$

a) $\int \frac{1}{1+x^2} \arctan x dx = \frac{(\arctan x)^2}{2} + k$

b) $\frac{1}{2} \int \frac{2x}{1+(x^2)^2} dx = \frac{1}{2} \arctan(x^2) + k$

a) $\frac{x \ln(x+2) - (x+2)}{5 \ln 3} + k$

b) $\arctan(\sin x) + k$

a) $2\arcsin x + k$

b) $\pi \arctan x + k$

a) $\frac{1}{2} \ln|x^2 + 1| + \arctan x + k$

b) $\frac{-3}{2} \arcsin(x^2) + k = \frac{3}{2} \arccos(x^2) + C$

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1 a) $t = \sqrt[3]{x} \rightarrow x = t^3 \rightarrow dx = 3t dt$

$$\int \frac{dx}{1+\sqrt[3]{x}} = \int \frac{3t dt}{1+t} = \int \left(3 + \frac{-3}{t+1}\right) dt =$$

$$= 3t - 3 \ln|t+1| + k = 3\sqrt[3]{x} - 3 \ln|\sqrt[3]{x} + 1| + k$$

b) $t = \sqrt{x} \rightarrow x = t^2 \rightarrow dx = 2t dt$

$$\int \frac{1+x}{1+\sqrt{x}} dx = \int \frac{2t+2t^3}{1+t} dt =$$

$$= \int \left(2t^2 - 2t + 4 + \frac{-4}{t+1}\right) dt =$$

$$= \frac{2t^3}{3} - t^2 + 4t - 4 \ln|1+t| + k =$$

$$= \frac{2\sqrt{x^3}}{3} - x + 4\sqrt{x} - 4 \ln|1+\sqrt{x}| + k$$

c) $t = \sqrt{x+2} \rightarrow t^2 = x+2 \rightarrow$

$$\rightarrow x = t^2 - 2 \rightarrow dx = 2t dt$$

$$\int \frac{x dx}{\sqrt{x+2}} = \int \frac{(t^2-2) \cdot 2t dt}{t} = \int (2t^2 - 4) dt =$$

$$= \frac{2t^3}{3} - 4t + k = \frac{2\sqrt{(x+2)^3}}{3} - 4\sqrt{x+2} + k$$

d) $t = \sqrt{2x-1} \rightarrow t^2 = 2x-1 \rightarrow x = \frac{t^2+1}{2} \rightarrow$
 $\rightarrow dx = t dt$

$$\int \frac{dx}{x\sqrt{2x-1}} = \int \frac{t dt}{\frac{t^2+1}{2} \cdot t} = \int \frac{2 dt}{t^2+1} =$$

$$= 2 \arctan t + k = 2 \arctan(\sqrt{2x-1}) + k$$

e) $t = \sqrt{e^x + 1} \rightarrow t^2 = e^x + 1 \rightarrow e^x = t^2 - 1 \rightarrow$

$$\rightarrow x = \ln|t^2 - 1| \rightarrow dx = \frac{2t}{t^2 - 1} dt$$

$$\int \frac{e^{2x}}{\sqrt{e^x + 1}} dx = \int (2t^2 - 2) dt = \frac{2t^3}{3} - 2t + k =$$

$$= \frac{2\sqrt{(e^x+1)^3}}{3} - 2\sqrt{e^x+1} + k$$

f) $t = e^x \rightarrow x = \ln t \rightarrow dx = \frac{1}{t} dt$

$$\int \frac{e^{2x} dx}{e^x + 1} = \int \frac{t dt}{t+1} = \int \left(1 + \frac{-1}{t+1}\right) dt =$$

$$= t - \ln |t+1| + k = e^x - \ln |e^x + 1| + k$$

g) $t = \frac{1}{x} \rightarrow x = \frac{1}{t} \rightarrow dx = \frac{-1}{t^2} dt$

$$\int \frac{dx}{x\sqrt{x^2-1}} = \int \frac{-dt}{\sqrt{1-t^2}} = \arccos t + k = \\ = \arccos \frac{1}{x} + k$$

h) $x = \sin t \rightarrow dx = \cos t dt$

$$\int \sqrt{1-x^2} dx = \int \sqrt{1-\sin^2 t} \cdot \cos t dt = \\ \int \cos^2 t dt = \int \left(\frac{1}{2} + \frac{\cos 2t}{2} \right) dt = \frac{t}{2} + \frac{\sin 2t}{4} + k = \\ = \frac{t}{2} + \frac{2 \sin t \cos t}{4} + k = \frac{\arcsin x}{2} + \frac{x\sqrt{1-x^2}}{2} + k$$

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◆ a) $3xe^x - 3e^x + k$

b) $(x^2 + 1)e^x - 2xe^x + 2e^x + k = (x^2 - 2x + 3)e^x + k$

c) $(x+1)\sin x + \cos x + k$

d) $-(x^2 + 2)\cos x + 2x \sin x + 2 \cos x + k = \\ = -x^2 \cos x + 2x \sin x + k$

e) $(x+1)^2 e^x - 2(x+1)e^x + 2e^x + k = (x^2 + 1)e^x + k$

f) $\frac{x^3}{3} \ln x - \frac{x^3}{9} + k$

g) $x \arctan x - \frac{1}{2} \ln |1+x^2| + k$

h) $\frac{-e^x \cos x + e^x \sin x}{2} + k$

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◆ a) $\frac{2}{5} \ln |5x+1| + k$

b) $\int \left(3 + \frac{7}{x-2} \right) dx = 3x + 7 \ln |x-2| + k$

c) $\int \left(x - 4 + \frac{5}{x+1} \right) dx = \frac{x^2}{2} - 4x + 5 \ln |x+1| + k$

d) $\int \left(\frac{1}{2}x^2 + \frac{3}{4}x - \frac{7}{8} + \frac{7/8}{2x+1} \right) dx =$

$$= \frac{x^3}{6} + \frac{3x^2}{8} - \frac{7x}{8} + \frac{7}{16} \ln |2x+1| + k$$

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◆ a) $\int \left(\frac{-1/3}{x} + \frac{1/3}{x-3} \right) dx = \frac{-1}{3} \ln |x| + \frac{1}{3} \ln |x-3| + k$

b) $\int \left(\frac{-1/2}{x+1} + \frac{1/2}{x-1} \right) dx = \frac{-1}{2} \ln |x+1| + \frac{1}{2} \ln |x-1| + k$

c) $\int \frac{2x+1}{(x+2)(x-2)} dx = \int \left(\frac{3/4}{x+2} + \frac{5/4}{x-2} \right) dx = \\ = \frac{3}{4} \ln |x+2| + \frac{5}{4} \ln |x-2| + k$

d) $\int \left(1 + \frac{3}{x^2-4} \right) dx = x + 3 \int \left(\frac{-1/4}{x+2} + \frac{1/4}{x-2} \right) dx = \\ = x - \frac{3}{4} \ln |x+2| + \frac{3}{4} \ln |x-2| + k$

e) $\int \left(2x-5 + \frac{17x-29}{(x-2)(x+3)} \right) dx =$

$$= x^2 - 5x + \int \left(\frac{1}{x-2} + \frac{16}{x+3} \right) dx =$$

$$= x^2 - 5x + \ln |x-2| + 16 \ln |x+3| + k$$

f) $\int \left(\frac{-1/2}{x} + \frac{4/3}{x-1} + \frac{-5/6}{x+2} \right) dx =$

$$= \frac{-1}{2} \ln |x| + \frac{4}{3} \ln |x-1| - \frac{5}{6} \ln |x+2| + k$$

g) $\int \left(x + \frac{x^2+2}{x(x-1)(x+1)} \right) dx =$

$$= \frac{x^2}{2} + \int \left(\frac{-2}{x} + \frac{3/2}{x-1} + \frac{3/2}{x+1} \right) dx =$$

$$= \frac{x^2}{2} - 2 \ln |x| + \frac{3}{2} \ln |x-1| + \frac{3}{2} \ln |x+1| + k$$

h) $\int \frac{1}{(x+1)(x-2)(x+2)} dx =$

$$= \int \left(\frac{-1/3}{x+1} + \frac{1/12}{x-2} + \frac{1/4}{x+2} \right) dx =$$

$$= \frac{-1}{3} \ln |x+1| + \frac{1}{12} \ln |x-2| + \frac{1}{4} \ln |x+2| + k$$

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◆ a) $\frac{-1}{3(x-2)^3} + k$

$$\text{b) } \int \left(\frac{1}{x} + \frac{-1}{x-1} + \frac{1}{(x-1)^2} \right) dx = \\ = \ln|x| - \ln|x-1| - \frac{1}{x-1} + k$$

$$\text{c) } \int \left(\frac{1}{x-1} + \frac{2}{(x-1)^2} + \frac{2}{(x-1)^3} \right) dx = \\ \ln|x-1| - \frac{2}{x-1} - \frac{1}{(x-1)^2} + k$$

$$\text{d) } \int \left(\frac{0}{x} + \frac{1}{x^2} + \frac{-4}{x-1} + \frac{3}{(x-1)^2} \right) dx = \\ = \frac{-1}{x} - 4 \ln|x-1| - \frac{3}{x-1} + k$$

$$\text{e) } \int \left(\frac{9}{x-1} + \frac{3}{(x-1)^2} + \frac{-9}{x-2} + \frac{6}{(x-2)^2} \right) dx = \\ = 9 \ln|x-1| - \frac{3}{x-1} - 9 \ln|x-2| - \frac{6}{x-2} + k$$

$$\text{f) } \int \frac{2}{x(x+1)(x-2)^2} dx = \\ = \int \left(\frac{1/2}{x} + \frac{-2/9}{x+1} + \frac{-5/18}{x-2} + \frac{1/3}{(x-2)^2} \right) dx = \\ = \frac{1}{2} \ln|x| - \frac{2}{9} \ln|x+1| - \frac{5}{18} \ln|x-2| - \\ - \frac{1}{3(x-2)} + k$$

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◆ a) $\int \frac{1}{(x+1)^2+1} dx = \arctan(x+1) + k$

b) $\frac{3}{2} \int \frac{2}{(2x+1)^2+1} dx = \frac{3}{2} \arctan(2x+1) + k$

c) $9 \int \frac{1}{(x-3)^2+1} dx = 9 \arctan(x-3) + k$

d) $5 \int \frac{1}{(2x-1)^2+2} dx = 5 \int \frac{1/2}{\left(\frac{2x-1}{\sqrt{2}}\right)^2+1} dx = \\ = \frac{5\sqrt{2}}{4} \int \frac{2/\sqrt{2}}{\left(\frac{2x-1}{\sqrt{2}}\right)^2+1} dx = \\ = \frac{5\sqrt{2}}{4} \arctan\left(\frac{2x-1}{\sqrt{2}}\right) + k$

$$\text{e) } \frac{1}{2} \int \frac{2x+6}{x^2+2x+2} dx = \frac{1}{2} \int \frac{2x+2+4}{x^2+2x+2} dx = \\ = \frac{1}{2} \int \frac{2x+2}{x^2+2x+2} dx + \frac{1}{2} \int \frac{4}{(x+1)^2+1} dx =$$

$$= \frac{1}{2} \ln|x^2+2x+2| + 2 \arctan(x+1) + k$$

$$\text{f) } \int \left(1 + \frac{-2x+3}{x^2-2x+2} \right) dx = x - \int \frac{2x-3}{x^2-2x+2} dx = \\ = x - \int \frac{2x-2}{x^2-2x+2} dx + \int \frac{1}{x^2-2x+2} dx = \\ = x - \ln|x^2-2x+2| + \int \frac{1}{(x-1)^2+1} dx = \\ = x - \ln|x^2-2x+2| + \arctan(x-1) + k$$

◆ 5 a) $\int \left(1 + \frac{4}{x-2} \right) dx = x + 4 \ln|x-2| + k$

b) $\int \left(x-2 + \frac{4}{2x+1} \right) dx = \frac{x^2}{2} - 2x + 2 \ln|2x+1| + k$

c) $\int \left(x^2+2+\frac{8}{x-4} \right) dx = \frac{x^3}{3} + 2x + 8 \ln|x-4| + k$

d) $\int \left(\frac{1}{x} + \frac{-1}{x+1} \right) dx = \ln|x| - \ln|x+1| + k$

e) $\int \left(\frac{2}{x} + \frac{-1}{x+1} \right) dx = 2 \ln|x| - \ln|x+1| + k$

f) $\int \left(1 + \frac{-4x+2}{x(x+1)} \right) dx = x + \int \left(\frac{2}{x} + \frac{-6}{x+1} \right) dx = \\ = x + 2 \ln|x| - 6 \ln|x+1| + k$

g) $\int \frac{4}{(x-1)(x+2)} dx = \int \left(\frac{4/3}{x-1} + \frac{-4/3}{x+2} \right) dx = \\ = \frac{4}{3} \ln|x-1| - \frac{4}{3} \ln|x+2| + k$

h) $\int \left(\frac{3/2}{x} + \frac{-1/3}{x-1} + \frac{-7/6}{x+2} \right) dx = \\ = \frac{3}{2} \ln|x| - \frac{1}{3} \ln|x-1| - \frac{7}{6} \ln|x+2| + k$

i) $\int \left(\frac{1/4}{x} + \frac{1/4}{x-2} + \frac{1/2}{(x-2)^2} \right) dx = \\ = \frac{1}{4} \ln|x| + \frac{1}{4} \ln|x-2| - \frac{1}{2(x-2)} + k$

3) $\int \left(\frac{1}{x-1} + \frac{2}{(x-1)^2} \right) dx = \ln|x-1| - \frac{2}{x-1} + k$

5) a) $\operatorname{tg} x - \cos x + k$

b) $2 \operatorname{arc sen} x + k$

k) $\int \frac{1}{(x+1)(x-1)^2} dx =$

6) a) $2\sqrt{1-x^2} + k$

$$= \int \left(\frac{1/4}{x+1} + \frac{-1/4}{x-1} + \frac{1/2}{(x-1)^2} \right) dx =$$

b) $\frac{(3x^2-1)^7}{84} + k$

$$= \frac{1}{4} \ln|x+1| - \frac{1}{4} \ln|x-1| - \frac{1}{x-1} + k$$

7) a) $\frac{\sqrt[3]{(x^2+1)^4}}{8} + k$

l) $\frac{1}{3} \int \frac{3}{1+(3x-2)^2} dx = \frac{1}{3} \operatorname{arc tg}(3x-2) + k$

b) $\frac{\operatorname{sen}^6 x}{2} + k$

m) $\int \frac{2}{(x-4)^2+1} dx = 2 \operatorname{arc tg}(x-4) + k$

8) a) $\ln|x^2-3x+5| + k$

n) $\frac{1}{2} \int \frac{2x+2}{x^2-2x+4} dx = \frac{1}{2} \int \frac{2x-2+4}{x^2-2x+4} dx =$

b) $\frac{1}{5} \ln|5x^2-2| + k$

$$= \frac{1}{2} \int \frac{2x-2}{x^2-2x+4} dx + \frac{4}{2} \int \frac{1}{(x-1)^2+3} dx =$$

9) a) $\frac{1}{2} \ln|2e^x-1| + k$

$$= \frac{1}{2} \ln|x^2-2x+4| + 2\sqrt{3} \int \frac{1/\sqrt{3}}{\left(\frac{x-1}{\sqrt{3}}\right)^2+1} dx =$$

b) $\frac{1}{2} e^{x^2-5} + k$

$$= \frac{1}{2} \ln|x^2-2x+4| + 2\sqrt{3} \operatorname{arc tg}\left(\frac{x-1}{\sqrt{3}}\right) + k$$

10) a) $\frac{-1}{12} \cos(4x^3-1) + k$

b) $-e^{1/x} + k$

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1) a) $\frac{-x^5}{25} + \frac{x^4}{14} - \frac{3}{4}x + k$

11) a) $\operatorname{arc sen}(e^x) + k$

b) $\int (2x^5 + x^4) dx = \frac{x^6}{3} + \frac{x^5}{5} + k$

b) $\frac{5^{3x^2-1}}{10 \ln 5} + k$

2) a) $\int (x^4 + 2x^2 + 1) dx = \frac{x^5}{5} + \frac{2x^3}{3} + x + k$

12) a) $\frac{-2}{\operatorname{sen} x} + k$

b) $\int \left(\frac{1}{2} x^{-3/4} - \frac{\sqrt{3}}{2} x^{-1/2} \right) dx = 2\sqrt[4]{x} - \sqrt{3x} + k$

b) $\operatorname{arc tg}(\operatorname{sen} x) + k$

3) a) $2e^x - \frac{3x}{\ln 3} + k$

13) a) $3x \ln x - 3x + k$

b) $\operatorname{sen} x + \ln|\cos x| + k$

b) $\frac{x \ln(x+1) - (x+1)}{\ln 2} + k$

4) a) $2 \ln|x| - \frac{x^2}{4} - \frac{1}{x} + k$

14) a) $-\operatorname{sen}\left(\frac{1}{x}\right) + k$

b) $2 \operatorname{tg} x + \operatorname{arc tg} x + k$

b) $\int (x^2 - x) dx = \frac{x^3}{3} - \frac{x^2}{2} + k$

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16 a) $x + \frac{2\sqrt{x^3}}{3} + k$

b) $\frac{2\sqrt{\cos^5 x}}{5} - 2\sqrt{\cos x} + k$

17 a) $\frac{\arcsen x}{2} - \frac{\sen(2\arcsen x)}{4} + k =$

$$= \frac{\arcsen x}{2} - \frac{x\sqrt{1-x^2}}{2} + k$$

b) $-e^x \cos e^x + \sen e^x + k$

18 a) $\frac{\sqrt{(2x+1)^3}}{6} - \frac{\sqrt{2x+1}}{2} + k$

b) $(2x^2 - 3)e^x - 4xe^x + 4e^x + k =$

$$= (2x^2 - 4x + 1)e^x + k$$

19 a) $(3x-1)\sen x + 3\cos x + k$

b) $x^4 \ln x - \frac{x^4}{4} + k$

20 a) $\frac{e^{-x}\sen x - e^{-x}\cos x}{2} + k$

b) $-xe^{-x} - e^{-x} + k$

21 a) $5x - 9\ln|x+1| + k$

b) $\frac{x^2}{2} - 6x + 14\ln|x+2| + k$

22 a) $x^3 + \frac{x^2}{2} + x + \ln|x-1| + k$

b) $\frac{5x}{3} + \frac{11}{9}\ln|3x-1| + k$

23 a) $\frac{1}{6}\ln|x-3| - \frac{1}{6}\ln|x+3| + k$

b) $\frac{1}{3}\arctg\frac{x}{3} + k$

24 a) $\frac{3}{4}\ln|x-3| + \frac{1}{4}\ln|x+1| + k$

b) $\frac{-1}{2}\ln|x| + \frac{5}{2}\ln|x-2| + k$

25 a) $\frac{3}{4}\ln|x| + \frac{1}{8}\ln|x-2| - \frac{7}{8}\ln|x+2| + k$

b) $-\frac{1}{25}\ln|x| + \frac{1}{5x} + \frac{1}{25}\ln|x-5| + k$

26 a) $\frac{2\sqrt{3}}{3}\arctg\left(\frac{x}{\sqrt{3}}\right) + k$

b) $\arctg(x-5) + k$

27 a) $\frac{\sqrt{2}}{2}\arctg\left(\frac{x-5}{\sqrt{2}}\right) + k$

b) $\ln|x^2 - 10x + 26| + 2\arctg(x-5) + k$

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1 a) $\frac{8}{3}$ b) 6

c) $2e - 2$ d) 3

e) 1 f) $\ln 2$

g) e^2 h) 1

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2 a) $\pi/3$

3 a) 3

4 $\frac{10}{3}$

5 a) $\frac{5}{2}$ b) 3

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1 Área = 2 u²

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2 $\left| \int_{-2}^0 (x^4 + 2x^3) dx \right| = \frac{8}{5} u^2$