Math3 (814013) – Spring 2007

Worksheet 13

Question (1) : Rationalize the denominator and simplify as much as possible.

1) $\frac{2}{\sqrt{5}}$

2) $\frac{6}{\sqrt{2x}}$

3) $\frac{12y^2}{\sqrt{6y}}$

4) $\frac{\sqrt{2m}\sqrt{5}}{\sqrt{20m}}$

5) $\frac{10x^3}{\sqrt[3]{4x}}$

6) $\frac{8x^3y^5}{\sqrt[3]{4x^2y}}$

7) $\frac{\sqrt[4]{3y^3}}{\sqrt[4]{4x^3}}$

8) $\sqrt[5]{\frac{4x^2}{16y^3}}$

9) $\frac{\sqrt{x}+2}{2\sqrt{x}+3}$

10) $\frac{5\sqrt{x}}{3-2\sqrt{x}}$

11) $\frac{2\sqrt{5}+3\sqrt{2}}{5\sqrt{5}+2\sqrt{2}}$

12) $\frac{-y^2}{2-\sqrt{y^2+4}}$

13) $\frac{4}{\sqrt{6}-2}$

14) $\frac{1}{1-\sqrt[3]{y}}$

15) $\dfrac{1}{\sqrt[3]{m}+\sqrt[3]{n}}$

16) $\dfrac{1}{\sqrt{x}+\sqrt{y}-\sqrt{z}}$

Question (2) : Rationalize the numerator and simplify as much as possible.

1) $\dfrac{\sqrt{t}-\sqrt{x}}{t-x}$

2) $\dfrac{\sqrt{x+h}-\sqrt{x}}{h}$

3) $\dfrac{\sqrt[3]{t}-\sqrt[3]{x}}{t-x}$

4) $\dfrac{\sqrt{7}}{\sqrt{5}}$

5) $\dfrac{\sqrt{5}-3}{2}$