TB(2B) Ch. 10 Pyth. Thm & Irrational Numbers

Rational and Irrational Numbers

Conventional Questions

1. [13-14 STest2, #4]

(a) Simplify $\left(\sqrt{5}+\sqrt{3}\right)\left(\sqrt{5}-\sqrt{3}\right)$. **(2 marks)**

(b) Simplify $\frac{2}{\sqrt{6}}-\frac{\sqrt{54}}{4}+3\times\sqrt{\frac{2}{3}}$. **(3 marks)**

2. [13-14 Final Exam, #2]

Simplify $\sqrt{96}-\frac{6}{\sqrt{3}}\times\sqrt{2}+\frac{\sqrt{6}}{2}$. **(3 marks)**

3. [14-15 Standardized Test, #1]

(a) Simplify $\left(3\sqrt{5}-2\sqrt{3}\right)\left(3\sqrt{5}+2\sqrt{3}\right)$. **(2 marks)**

(b) Simplify $\frac{\sqrt{2}}{5}-\frac{3}{\sqrt{128}}$. **(2 marks)**

4. [14-15 Final Exam, #6]

Simplify $\frac{2}{\sqrt{7}}+\sqrt{63}-\sqrt{28}$. **(3 marks)**

5. [15-16 Final Exam, #4]

(a) Simplify $\frac{9\sqrt{70}}{\sqrt{2}}-5\sqrt{140}$. **(3 marks)**

(b) Write down two irrational numbers such that their product is an integer. **(1 mark)**

6. [15-16 Standardized Test, #9]

A, *B* and *C* are three points on a rectangular coordinate plane. It is given that $AB=\sqrt{50}$, $BC=\sqrt{128}$ and $AC=\sqrt{18}$. What will be formed when *A*, *B* and *C* are joined? Explain briefly.

(2 marks)

7. [16-17 Standardized Test, #7]

Simplify $\left(\frac{\sqrt{3}}{5}\right)\left(\sqrt{32}-\frac{1}{\sqrt{8}}\right)$. **(3 marks)**

8. [17-18 Final Exam, #2]

Simplify the following expressions.

(a) $2\sqrt{45}-\sqrt{125}$ **(2 marks)**

(b) $\dfrac{3\sqrt{12}\times 5\sqrt{3}}{\sqrt{5}}$ **(2 marks)**

~ End ~