1. Classify the following number as rational or irrational: 2 - $\sqrt{5}$
A. Rational
B. Irrational
C. Cannot be determined
D. None of the above (B)
Explanation: 2 - $\sqrt{5}$ is irrational because $\sqrt{5}$ is irrational, and subtracting a rational number from an irrational number results in an irrational number.

2. Simplify $(3+\sqrt{3})(2+\sqrt{2})$. What is the result?
A. $6 + 2\sqrt{6} + 3\sqrt{2} + 2\sqrt{3}$
B. $6 + \sqrt{6} + 3\sqrt{2} + 2\sqrt{3}$
C. $6 + 2\sqrt{3} + 3\sqrt{2}$
D. $6 + \sqrt{6} + 2\sqrt{2} + 2\sqrt{3}$ (A)
Explanation: Expanding the expression $(3+\sqrt{3})(2+\sqrt{2})$, using the distributive property, gives the result $6 + 2\sqrt{6} + 3\sqrt{2} + 2\sqrt{3}$.

3. Which of the following is the correct rationalized form of $\frac{1}{\sqrt{7}-2}$?
A. $\frac{\sqrt{7}+2}{7-4}$
B. $\frac{\sqrt{7}+2}{7}$
C. $\frac{1}{7-4}$
D. $\frac{\sqrt{7}-2}{7}$ (A)
Explanation: To rationalize $\frac{1}{\sqrt{7}-2}$, multiply both the numerator and denominator by $\sqrt{7}+2$, resulting in $\frac{\sqrt{7}+2}{7-4} = \frac{\sqrt{7}+2}{3}$.

4. Which of the following expressions is an irrational number?
A. 5/3
B. π
C. 8/4
D. 0.25 (B)
Explanation: π\piπ is irrational because it cannot be expressed as a fraction and its decimal expansion is non-terminating and non-repeating.

5. Which of the following is a rational number?
A. $\sqrt{3}$
B. 7/3
C. $\sqrt{2}$
D. π (B)
Explanation: 7/3 is a rational number because it is a fraction of two integers.

6. What is the result when $\sqrt{3}$ is added to $\sqrt{2}$?
A. Rational number
B. Irrational number
C. Integer
D. None of the above (B)
Explanation: The sum $\sqrt{3} + \sqrt{2}$ is an irrational number because it involves the addition of two irrational numbers.

7. Simplify $\frac{1}{\sqrt{5}+2}$ by rationalizing the denominator. What do you get?
A. $\frac{\sqrt{5}-2}{5-4}$
B. $\frac{\sqrt{5}-2}{5}$
C. $\frac{\sqrt{5}+2}{1}$
D. $\frac{\sqrt{5}-2}{2}$ (A)
Explanation: Rationalizing the denominator of by $\frac{1}{\sqrt{5}+2}$ multiplying the numerator and denominator by $\sqrt{5}-2$, results in $\frac{\sqrt{5}-2}{5-4} = \frac{\sqrt{5}-2}{1}$.

8. What is the decimal expansion of 5/6?
A. 0.8333...
B. 0.6666...
C. 1.25
D. 1.5 (B)
Explanation: The decimal expansion of 5/6 is a repeating decimal: 0.6666...

9. What is the simplest form of 25/5?
A. 5
B. 4
C. 6
D. 7 (A)
Explanation:25/5 = 5, which is the simplest form.

10. Which of the following is true about irrational numbers?
A. They are always positive.
B. They cannot be expressed as a fraction.
C. They have repeating decimal expansions.
D. They are always greater than 1. (B)
Explanation: Irrational numbers cannot be expressed as fractions and have non-terminating, non-repeating decimal expansions.