1. Find an equation of a line in the form $y = mx + b$ which has a slope of -3 and passes through the point $(-1, 4)$.

$$y = -3x + b$$
$$4 = -3(-1) + b$$
$$4 = 3 + b$$
$$b = 1 \implies y = 3x + 1$$

2. Rationalize the numerator: $\dfrac{\sqrt{x}+2}{x-4} \cdot \dfrac{\sqrt{x}-2}{\sqrt{x}-2}$

$$= \frac{x - 2\sqrt{x} + 2x - 4}{(x-4)(\sqrt{x}-2)} = \frac{x-4}{(x-4)(\sqrt{x}-2)}$$

$$= \frac{1}{\sqrt{x}-2}$$

3. Simplify: $\dfrac{\frac{1}{5}-\frac{1}{x}}{5-x} \cdot \dfrac{5x}{5x} = \dfrac{\frac{1}{5}\cdot 5x - \frac{1}{x}\cdot 5x}{(5-x)5x}$

$$= \frac{x-5}{(5-x)\,5x}$$

$$= \frac{-1(5-x)}{(5-x)\,5x}$$

$$= -\frac{1}{5x}$$

4. Expand $x^4(2\sqrt{x} - x^2)$. $= x^4 \left(2x^{\frac{1}{2}} - x^2 \right)$

$$= 2x^{4+\frac{1}{2}} - x^{4+2}$$

$$= 2x^{\frac{9}{2}} - x^6$$

5. Convert $135°$ to radian measure.

$$135° \cdot \frac{\pi}{180} = \frac{3\pi}{4}$$

6. Evaluate the following:

   (a) $\sin(30°)$ $= \frac{1}{2}$

   (b) $\cos(5\pi/4)$ $= -\frac{1}{\sqrt{2}}$

   (c) $\tan(2\pi/3)$ $= -\sqrt{3}$

7. Below is a unit circle. Put your answers next to the corresponding points on the unit circle.

   (a) Point A corresponds to what angle in degree measure?
   (b) Point B corresponds to what angle in radian measure?
   (c) What are the coordinates of Point C?

$A \quad 60°$

$C \quad \left(\frac{\sqrt{3}}{2}, -\frac{1}{2} \right)$

$B \quad \frac{5\pi}{4}$