

1. Graph the function  $y = 2^{x-2} + 3$  by shifting  $y = 2^x$ . Find all its asymptotes and the point at which this function intercepts y-axis.

2. Evaluate  $\tan(\arccos(\frac{-2}{3}))$ . hint: Draw a right triangle and find the requested trigonometric function. Pay extra attention to the trigonometric quadrant this angle belongs!

3. Find  $x$  in the following equation.

$$e^{2x} + 2e^x - 35 = 0 \tag{1}$$

hint: Substitute  $u = e^x$  and solve the quadratic equation for  $u$ . Then Find  $x$ . One answer is not acceptable. explain why!