

# KLASKAMER 10

## GRAAD 11 WISKUNDE: EPISODE 1

### EKSPONENTE EN WORTELVORME 1

VRAAG 1:

Vereenvoudig:  $(\sqrt[3]{\sqrt{29} - \sqrt{2}} \cdot \sqrt[3]{\sqrt{29} + \sqrt{2}})^{-2}$  (7)

VRAAG 2:

Vereenvoudig:  $\frac{16^x \cdot \left(\frac{1}{4}\right)^{x+1} \cdot 2}{4^{-x+1} \cdot \left(\frac{1}{2}\right)^x \cdot 32^{x+2}}$  (8)

**BlikSlim**  
www.klaskamer10.co.za

TOTAAL: 15 PUNTE

# GRAAD 11 WISKUNDE: EPISODE 1 (MEMORANDUM)

## EKSPONENTE EN WORTELVORME 1

### VRAAG 1

$$\begin{aligned}
 & (\sqrt[3]{\sqrt{29} - \sqrt{2}} \cdot \sqrt[3]{\sqrt{29} + \sqrt{2}})^{-2} \\
 &= (\sqrt[3]{(\sqrt{29} - \sqrt{2})(\sqrt{29} + \sqrt{2})})^{-2} \checkmark \checkmark \\
 &= (\sqrt[3]{29 - 2})^{-2} \checkmark \\
 &= (\sqrt[3]{27})^{-2} \checkmark \\
 &= (3)^{-2} \checkmark \\
 &= \frac{1}{3^2} = \frac{1}{9} \checkmark
 \end{aligned}$$

### VRAAG 2

$$\begin{aligned}
 & \frac{16^x \cdot \left(\frac{1}{4}\right) \cdot x^{+1} 2}{4^{-x+1} \cdot \left(\frac{1}{2}\right)^x \cdot 32^{x+2}} \\
 &= \frac{(2^4)^x (2^{-2})^{x+1} 2 \checkmark}{(2^2)^{-x+1} (2^{-1})^x (2^5)^{x+2} \checkmark} \\
 &= \frac{2^{4x} 2^{-2x} 2^{-2} 2 \checkmark}{2^{-2x} 2^2 2^{-x} 2^{5x} 2^{10} \checkmark} \\
 &= \frac{2^{2x} 2^{-1} \checkmark}{2^{2x} 2^{12} \checkmark} \\
 &= \frac{1 \checkmark}{2^{13}} = \frac{1}{8192} \checkmark
 \end{aligned}$$