

Name _____

Date _____

VERTEXMATH • BUILD YOUR OWN • MCR3U GRADE 11

Exponential Functions: your summary

1 Fill in every blank from memory. No notes.**2** Check it against the Unit Summary in a different colour.**3** Tick ✓ or X on each card. Every X is a topic to review.vertexmath.ca
Worksheet, answers &
this cheat sheet

Linear, quadratic or exponential?

Write the tool for each case.

2, 5, 8, 11

1, 4, 9, 16

3, 6, 12, 24

1 Exponent laws☒ ☐**1** Simplify $(6x^3y)^2 \cdot x^4$.**2** Simplify $\frac{12a^7b^2}{4a^3b^5}$.**2** Zero and negative exponents☒ ☐**3** Evaluate $7^0 + 2^{-3}$.**4** Write $6m^{-4}$ with a positive exponent.**3** Rational exponents☒ ☐**5** Evaluate $81^{-3/4}$.**6** Solve $x^{3/2} = 125$.**4** Scientific notation☒ ☐**7** Write $(7.0 \times 10^5)(4.0 \times 10^{-8})$ in scientific notation.**5** The graph of $y = b^x$ ☒ ☐**8** Domain, range, y -intercept and asymptote of $y = 3^x$.**6** Which model fits?☒ ☐**9** Linear, quadratic or exponential: 4, 12, 36, 108?**7** Transformations☒ ☐**10** $y = 2 \cdot 3^{2x-4} + 5$: give the asymptote and the image of (1, 3) from $y = 3^x$.**8** Growth and decay☒ ☐**11** Half-life 6 h, starting with 80 mg. How much is left after 18 h?**My traps** Your three most likely mistakes, and how you will catch each one.**1** _____ **2** _____ **3** _____

Answers to the numbered prompts. Cover this strip until you are done.

1 $36x^{10}y^2$ **2** $3a^4/b^3$ **3** $1 + 1/8 = 9/8$ **4** $6/m^4$ **5** $1/27$ **6** $x = 125^{2/3} = 25$ **7** 2.8×10^{-2} **8** $\mathbb{R}; y < 0; (0, 1); y = 0$

9 Exponential: constant ratio 3 **10** $y = 5; (1/2 + 2, 2(3) + 5) = (2.5, 11)$ **11** $80(1/2)^{18/6} = 10 \text{ mg}$