

# Babysitting powers

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This task is about solving maths problems involving powers.

Uncle Tipene, who likes maths, agreed to pay Ana to babysit. He said she would get paid using the formula  $2^n$  (2 to the power of  $n$ ) dollars, where  $n$  is the number of hours that Ana worked. This meant that if Ana worked for 5 hours, she would get paid 32 dollars.

a) How much would Ana get paid if she worked for (Write your answers as whole numbers.)

i) 1 hour? \$ \_\_\_\_\_

ii) 3 hours? \$ \_\_\_\_\_

iii) 6 hours? \$ \_\_\_\_\_

Uncle Tipene agreed that he would still use the same formula if Ana wasn't needed. This b) would mean  $n = 0$ .

How much would Ana get if she wasn't needed? \$ \_\_\_\_\_

c) If Ana got paid \$256, show how to work out the number of hours she had babysat for.

Show your working.

Answer: \_\_\_\_\_ hours

d) Explain how the rate Ana gets paid ( $2^n$ ) compares to getting \$4 per hour.

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