Without using a calculator match the given equations with the graphs shown.

1. _____ $y = 4(2)^x$ 2. _____ $y = 2(5)^x$ 3. _____ $y = 2(8)^x$ 4. _____ $y = 4(5)^x$

5. If $\dfrac{\sqrt{72} - \sqrt{32}}{2} = 2^a$, what is the value of a ?   A) 2 B) $\frac{1}{2}$ C) $\frac{-1}{2}$ D) $\frac{-3}{2}$

6. Which of the following is equivalent to $(1 - p)(1 + p + p^2 + p^3 + p^4 + p^5 + p^6)$?

A) $1 - p^8$

B) $1 - p^7$
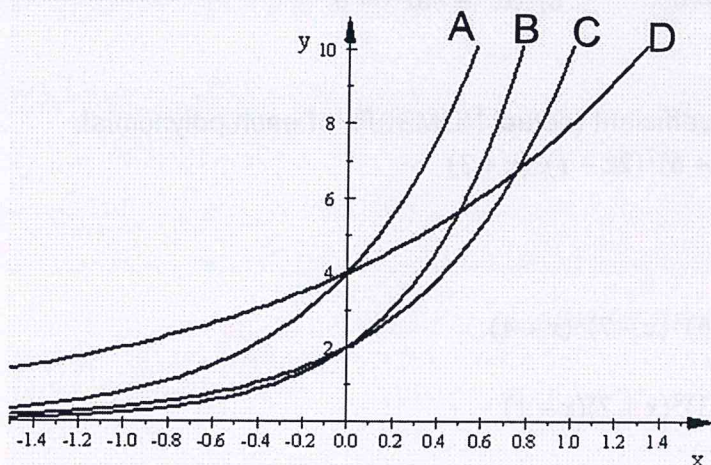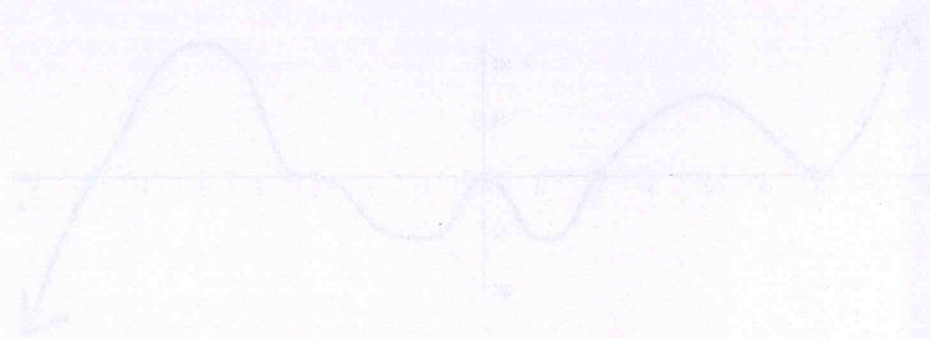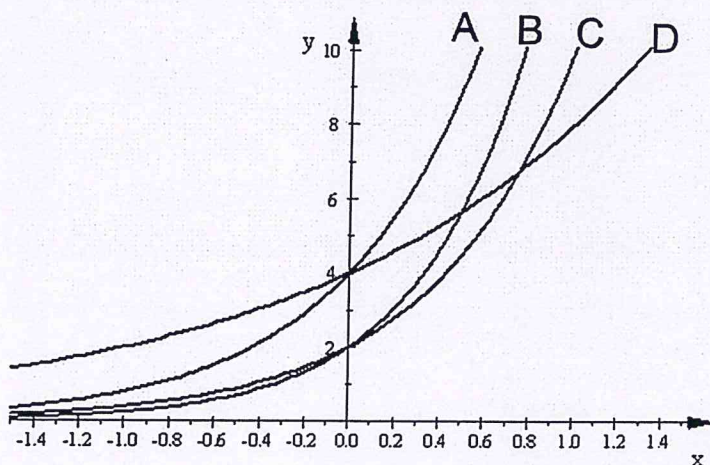
C) $1 - p^6$

D) $1 - p^5$

Bellwork   Algebra 2   Friday, January 25, 2019   ANSWERS

Without using a calculator match the given equations with the graphs shown.

1. __D__ $y = 4(2)^x$ 2. __C__ $y = 2(5)^x$ 3. __B__ $y = 2(8)^x$ 4. __A__ $y = 4(5)^x$

★ 1 & 4 are A & D by using the y-int (4). Since A grows faster it has the bigger base (#4)

★ 2 & 3 are B & C using the y-int (2). B grows faster so it has the bigger base (#3)

5. If $\dfrac{\sqrt{72} - \sqrt{32}}{2} = 2^a$, what is the value of a?   A) 2   B) $\dfrac{1}{2}$ C) $\dfrac{-1}{2}$ D) $\dfrac{-3}{2}$

$$= \frac{\sqrt{36 \cdot 2} - \sqrt{16 \cdot 2}}{2}$$

$$= \frac{6\sqrt{2} - 4\sqrt{2}}{2}$$

$$= \frac{2\sqrt{2}}{2} = \sqrt{2} = 2^{\left(\frac{1}{2}\right)} = 2^{(a)} \qquad a = \frac{1}{2}$$

6. Which of the following is equivalent to $(1-p)(1+p+p^2+p^3+p^4+p^5+p^6)$?

A) $1 - p^8$

B) $1 - p^7$

C) $1 - p^6$

D) $1 - p^5$

$$\left(1 + p + p^2 \cdots p^6\right) - \left(p + p^2 + \cdots p^7\right)$$

$$= 1 - p^7$$

1