

Chapter Test Review Homework 2

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $2x^{-2}y^0 \cdot 4x^2y^4 \cdot 4x^{-4}y^3$

2) $2x^2y^3 \cdot 3y^{-2}$

3) $x^2y^{-2} \cdot 4x^0 \cdot 4xy^3$

4) $(xy)^2 \cdot x^3y^4$

5) $(2x^3)^2 \cdot 2y^4$

6) $(2u^4v^3 \cdot u^4v^3)^4$

7) $\frac{2m^4n^2}{(m \cdot 2nm^4)^3}$

8) $\frac{(2a^2b^2)^3}{ba^2 \cdot a^3b^0}$

9) $\frac{2y^2 \cdot (2xy^0)^4}{y^4}$

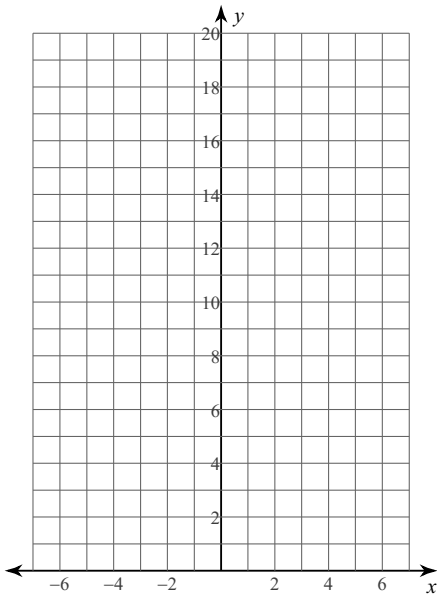
10) $\left(\frac{x^2y^2 \cdot 2x^4y^2}{y^4}\right)^{-3}$

11) $\frac{u^4}{(u^3v^{-3})^2 \cdot 2uv}$

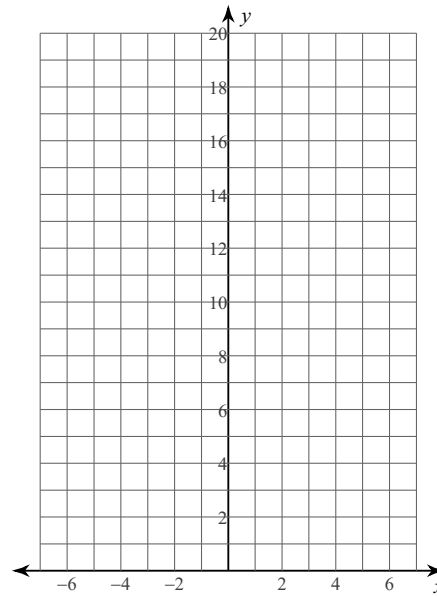
12) $\frac{(2n^2)^3 \cdot 2m^3n^0}{2m^{-3}n^{-2}}$

Create a table of values then sketch the graph of each function.

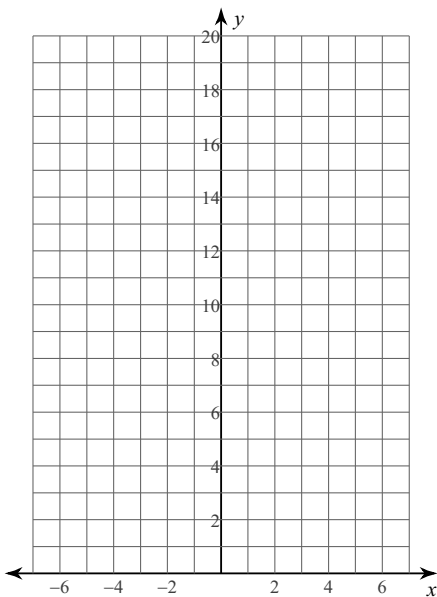
13) $f(x) = 3 \cdot 2^x$



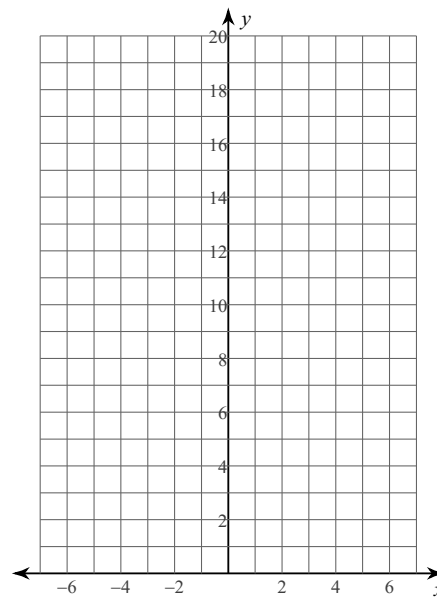
14) $f(x) = 5 \cdot 2^x$



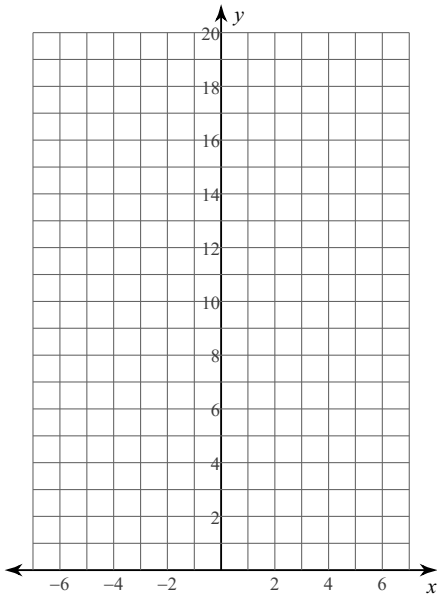
15) $f(x) = 2 \cdot 2^x$



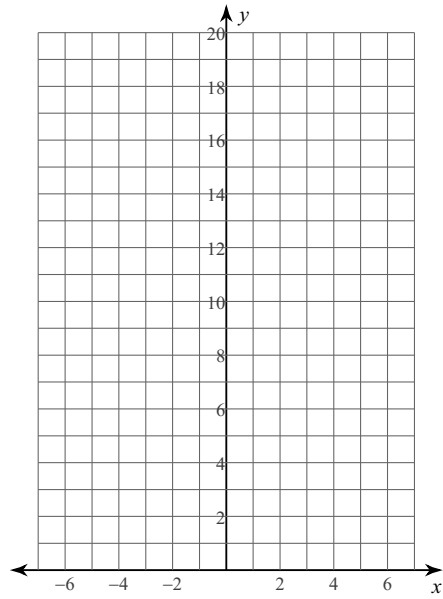
16) $f(x) = 4 \cdot 2^x$



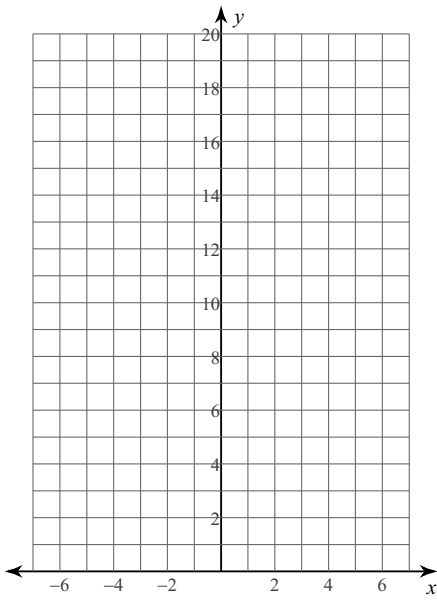
$$17) f(x) = 5 \cdot \left(\frac{1}{2}\right)^x$$



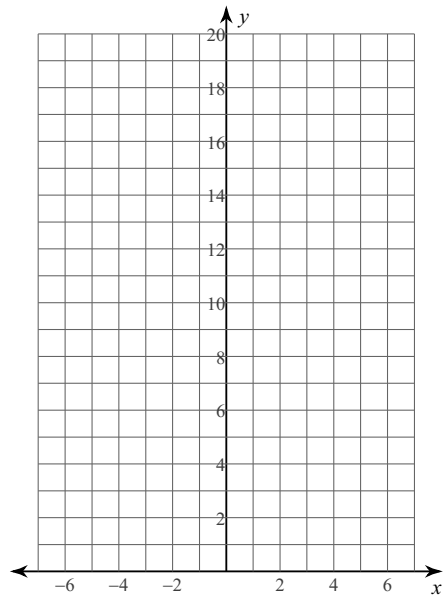
$$18) f(x) = \frac{1}{3} \cdot \left(\frac{1}{7}\right)^x$$



$$19) f(x) = 3 \cdot \left(\frac{1}{2}\right)^x$$

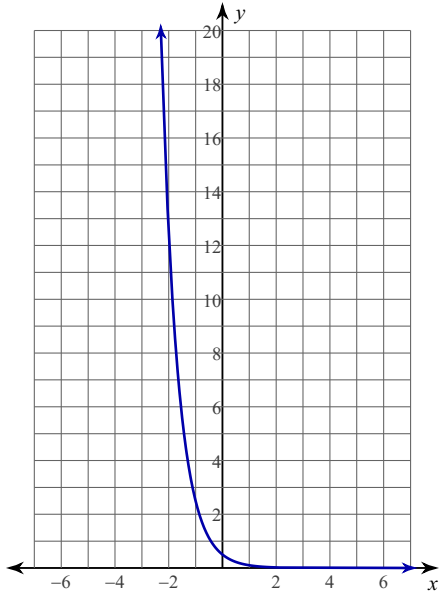


$$20) f(x) = 2 \cdot \left(\frac{1}{3}\right)^x$$

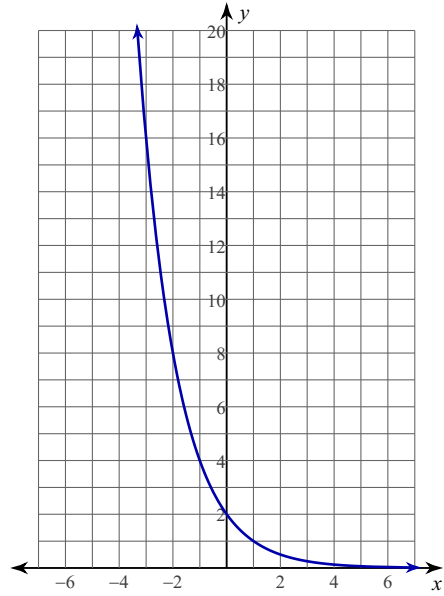


Write an equation for each graph.

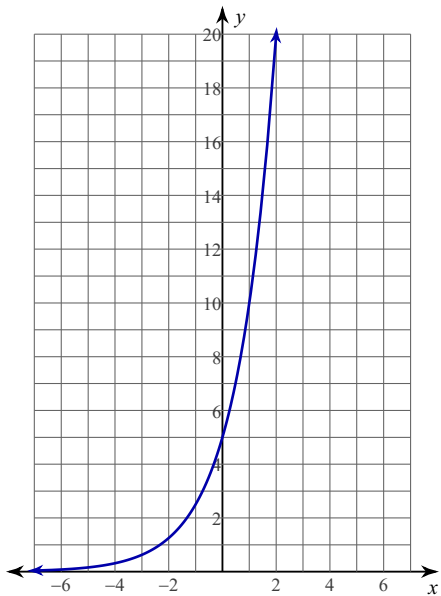
21)



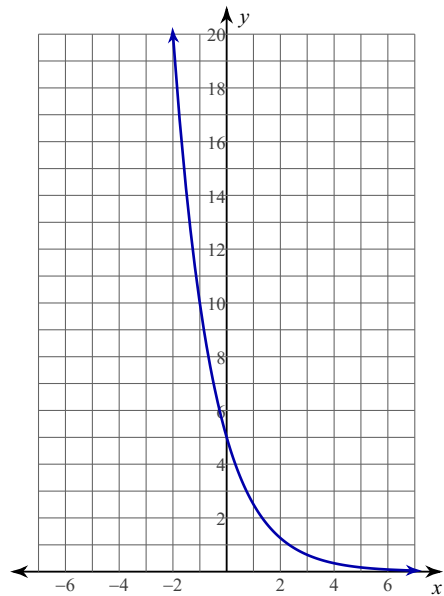
22)



23)



24)



What is the Formual for Exponential Growth

25)

What is the Formual for Exponential Decay

26)

Use the growth or Decay formula for the following questions.

27) Computer Value You buy a computer for \$3000. It depreciates at the rate of 20% per year. Find the value of the computer after the given number of years.

- a. 1 year
- b. 3 years
- c. 5 years

28) Investments You deposit \$500 in a savings account that earns 2.5% interest compounded yearly. Find the balance in the account after the given amounts of time.

- a. 1 year
- b. 5 years
- c. 20 years

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Simplify. Your answer should contain only positive exponents.

1) $2x^{-2}y^0 \cdot 4x^2y^4 \cdot 4x^{-4}y^3$

$$\frac{32y^7}{x^4}$$

2) $2x^2y^3 \cdot 3y^{-2}$

$$6x^2y$$

3) $x^2y^{-2} \cdot 4x^0 \cdot 4xy^3$

$$16x^3y$$

4) $(xy)^2 \cdot x^3y^4$

$$x^5y^6$$

5) $(2x^3)^2 \cdot 2y^4$

$$8x^6y^4$$

6) $(2u^4v^3 \cdot u^4v^3)^4$

$$16u^{32}v^{24}$$

7) $\frac{2m^4n^2}{(m \cdot 2nm^4)^3}$

$$\frac{1}{4m^{11}n}$$

8) $\frac{(2a^2b^2)^3}{ba^2 \cdot a^3b^0}$

$$8ab^5$$

9) $\frac{2y^2 \cdot (2xy^0)^4}{y^4}$

$$\frac{32x^4}{y^2}$$

10) $\left(\frac{x^2y^2 \cdot 2x^4y^2}{y^4}\right)^{-3}$

$$\frac{1}{8x^{18}}$$

11) $\frac{u^4}{(u^3v^{-3})^2 \cdot 2uv}$

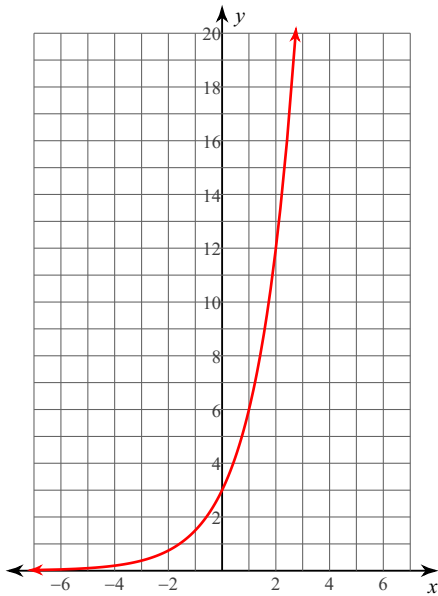
$$\frac{v^5}{2u^3}$$

12) $\frac{(2n^2)^3 \cdot 2m^3n^0}{2m^{-3}n^{-2}}$

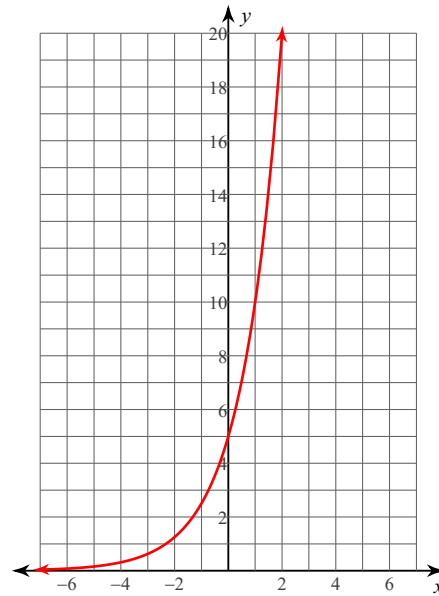
$$8m^6n^8$$

Create a table of values then sketch the graph of each function.

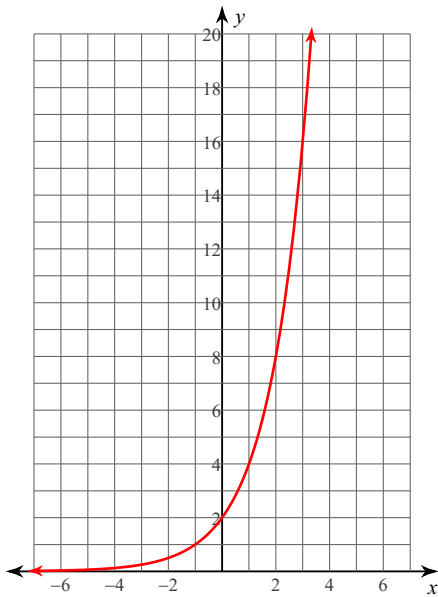
13) $f(x) = 3 \cdot 2^x$



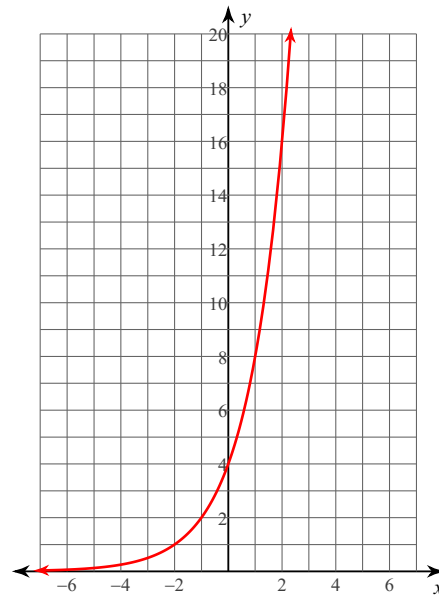
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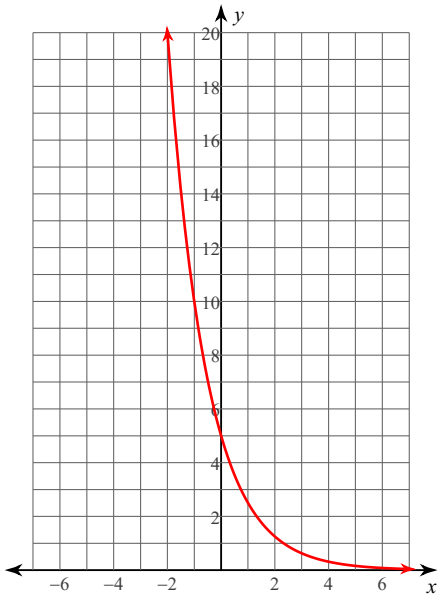
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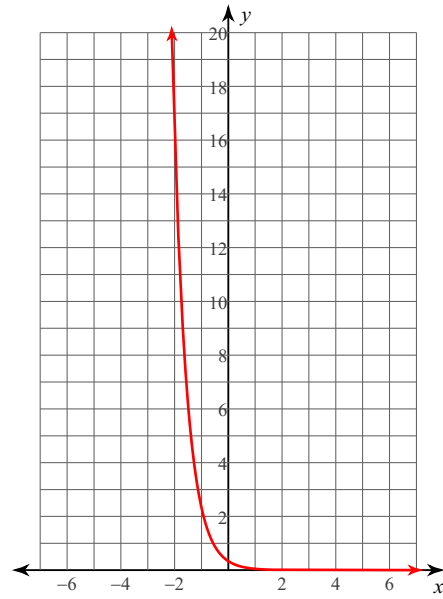
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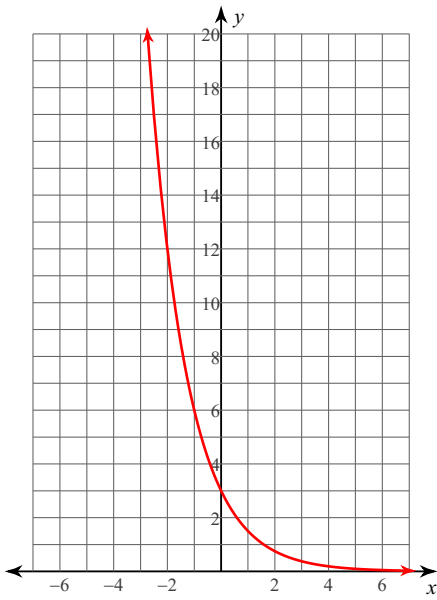
$$17) f(x) = 5 \cdot \left(\frac{1}{2}\right)^x$$



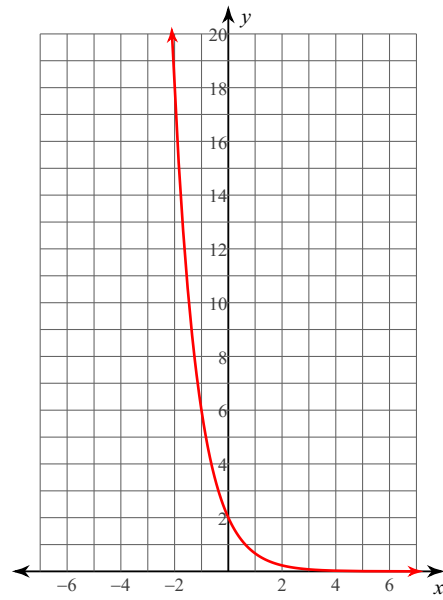
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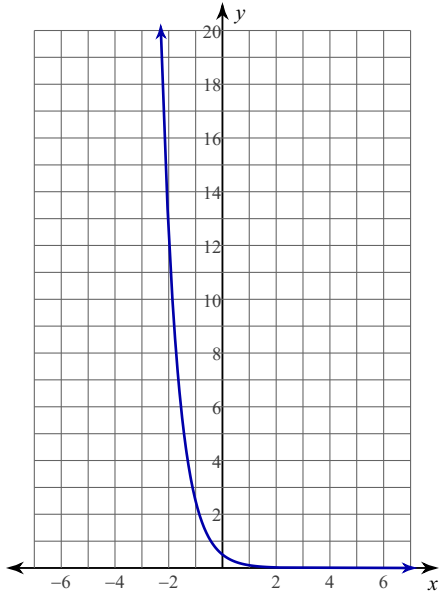


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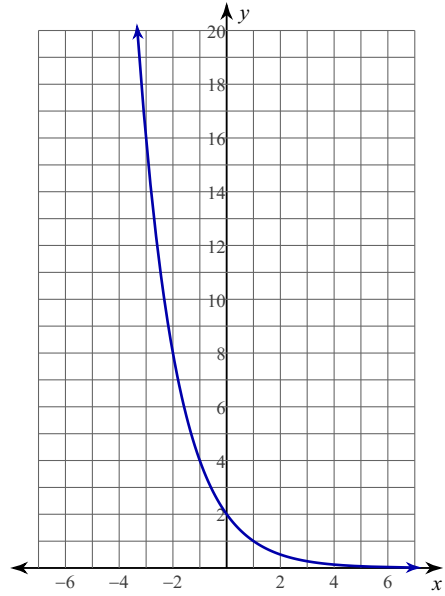
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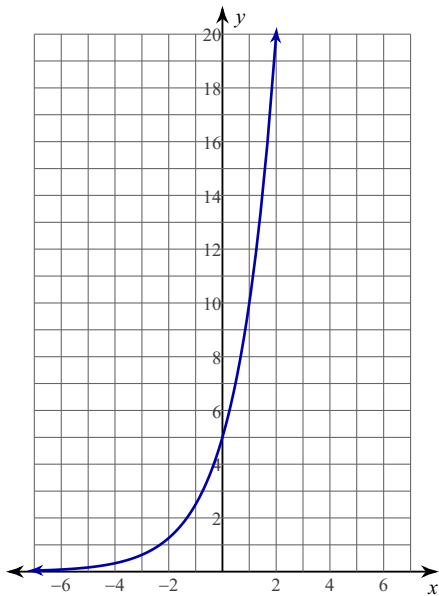
$$f(x) = \frac{1}{2} \cdot \left(\frac{1}{5}\right)^x$$

22)



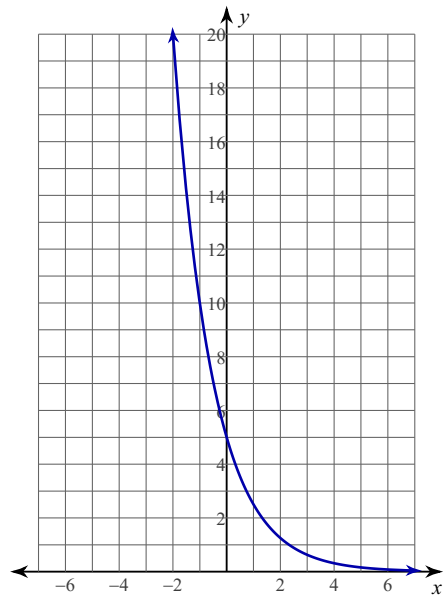
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