Section 8.3 Worksheet

Name: _____

Match the equation with the graph.

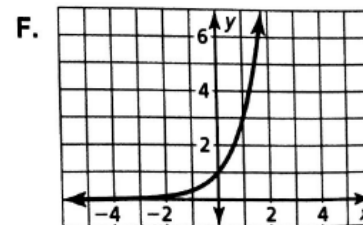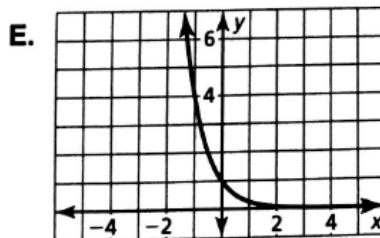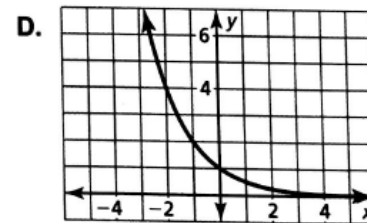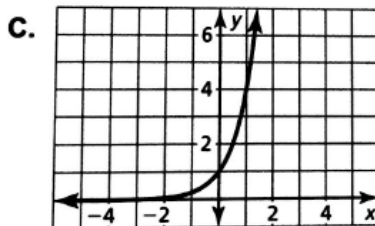1. $y = 2^x$
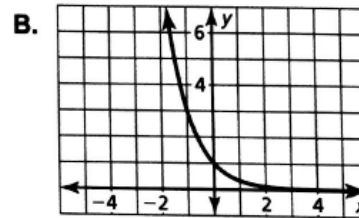
2. $y = 3^x$

3. $y = 4^x$

4. $y = \left(\frac{1}{2}\right)^x$

5. $y = \left(\frac{1}{3}\right)^x$

6. $y = \left(\frac{1}{4}\right)^x$

A.

B.

C.

D.

E.

F.

Tell whether the function represents *exponential growth* or *exponential decay*.
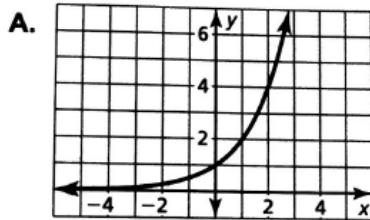
5. $y = 6^x$

6. $y = 0.1^x$

7. $y = 4^x$

8. $y = \left(\frac{1}{2}\right)^x$

9. $y = \left(\frac{8}{5}\right)^x$

10. $y = \left(\frac{1}{6}\right)^x$

Identify the decay or growth factor and the *y*-intercept of each exponential function.

11. $y = 2(3)^x$

12. $y = 8(0.8)^x$

13. $y = 4\left(\frac{1}{4}\right)^x$

Decay/Growth Factor:

y-intercept:

Decay/Growth Factor:

y-intercept:

Decay/Growth Factor:

y-intercept:

14. $y = 7\left(\frac{1}{2}\right)^x$

15. $y = 5(9)^x$

16. $y = \left(\frac{1}{6}\right)^x$

Decay/Growth Factor:
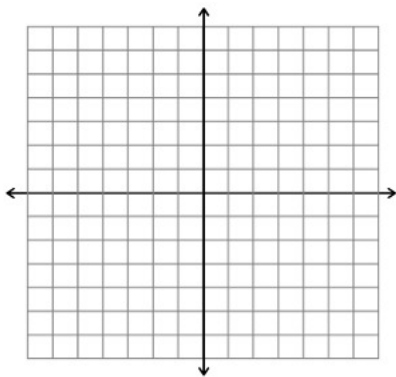
y-intercept:

Decay/Growth Factor:

y-intercept:

Decay/Growth Factor:

y-intercept:

Graph the exponential function.

1. $y = 3^x$

x	y

2. $y = \left(\frac{1}{5}\right)^x$

x	y

3. $y = 2(2)^x$

x	y

4. $y = 3\left(\frac{2}{3}\right)^x$

x	y