| A | B | C | D |
| :---: | :---: | :---: | :---: |
| H | G | F | E |
| I | J | K | L |
| P | O | N | M |
|  |  |  | T |
|  | R |  |  |

Read answers straight down from $A-Q$ to $B-R$ to $C-S$ to $D-T$ to $A$ again!
The spot where the correct answer should go is bolded on each page. Don't forget to undo the bold after you put the correct answer in that spot. Otherwise, it makes it easy for the kiddos ©


## Simplify: $\quad-8 a^{4} \cdot 6 a^{3} b^{4}$

E. $8 b^{5} a^{5}$
F. $-\frac{60 b^{8}}{a^{5}}$
G. $7 a^{13} b^{6}$
H. $-48 a^{7} b^{4}$


Simplify: ${ }^{-5 y x^{-10}} \cdot-10 x^{2} y^{10}$
E. ${ }^{-80} y^{14} x^{4}$
F. $-\frac{20 x^{11}}{y^{10}}$
G. $\frac{50 y^{11}}{x^{8}}$

12
H. $y$


Simplify $\frac{2 x^{-7} y^{7}}{8 x^{8} y^{-6}}$
Simplify $8 x^{8} y^{-6}$
E. $\frac{y^{17} x^{6}}{10}$
F. $\frac{y^{13}}{4 x^{15}}$
G. $\frac{2}{7 x^{9} y^{6}}$
$H^{\frac{3}{4 y^{6} x^{7}}}$


Graph: $\quad y=2 \cdot\left(\frac{1}{3}\right)^{x-1}+2$

F.

G.




Graph: $y=5 \cdot 2^{x+1}-1$

L.



Write a rule for the following sequence: $7,80,153,226, \ldots$
I. $a_{n}=7+80(n-1)$
J. $a_{n}=7+73(n-1)$
K. $a_{n}=7 * 73(n-1)$
L. $a_{n}=7 * 2^{n-1}$


Simplify completely: $\sqrt{25} \cdot \sqrt{40}$
I. $5 \sqrt{10}$
J. $10 \sqrt{20}$
K. $10 \sqrt{10}$
L. $5 \sqrt{40}$


Write a rule for this sequence: $12,96,768,6144, \ldots$
I. $a_{n}=12+84(n-1)$
J. $a_{n}=a_{1} \cdot 8^{n-1}$
K. $a_{n}=1 \cdot 8^{n-1}$
L. $a_{n}=12 \cdot 8^{n-1}$


Simplify $\frac{-2 x^{9} y^{0}}{-10 x^{2} y^{4}}$
M. $-\frac{x^{9} y^{4}}{9}$
N. $\frac{\overline{7 y}}{6 x^{2}}$
0. $-y^{3}$
P. $\frac{x^{7}}{5 y^{4}}$


Solve for $\mathrm{x}: 3^{2 x+6}=6561$
M. 1090.5
N. 2187
0. 1
P. 217


Simplify: $\left(3^{4} x y^{-13}\right)^{0}$
M. $3^{4} x y^{-13}$
N. 1
0. $\frac{3^{4} x}{y^{13}}$
P. 0


Simplify $\frac{x^{20}}{x^{5}}$
M. $x^{15}$
N. $x^{4}$
O. $x^{25}$
P. $1^{15}$


Find the $11^{\text {th }}$ term in the sequence:
$f(n)=5 * 3^{n-1}$
Q. 295,245
R. 1482
S. $14,348,907$
T. 192



Simplify: $\sqrt{144 x}$
Q. $7 \sqrt{2 x}$
R. $4 \sqrt{7 x}$
S. $12 \sqrt{x}$
T. $2 x \sqrt{6}$


Simplify: $\sqrt{512 x}$
Q. $7 \sqrt{5 x}$
R. $5 x \sqrt{6 x}$
S. $6 x \sqrt{2 x}$
T. $16 \sqrt{2 x}$


Simplify: $\frac{\sqrt{24}}{\sqrt{6}}$
A. $\sqrt{18}$
B. 2
C. $2 \sqrt{2}$
D. 4


Simplify $\frac{5 \sqrt{12}}{\sqrt{7}}$
A. $\frac{5 \sqrt{8}}{7}$
B. $\frac{5 \sqrt{84}}{\sqrt{49}}$
C. $\frac{10 \sqrt{21}}{7}$
D. $\frac{10 \sqrt{3}}{7}$


Simplify $\sqrt{54} \cdot \sqrt{32}$
A. $7 \sqrt{12}$
B. $7 \sqrt{8}$
C. $\sqrt{1728}$
D. $24 \sqrt{3}$


Write a rule for a geometric sequence where $a_{3}=5$ and $a_{5}=20$
A. $a_{n}=\frac{5}{4} \cdot(2)^{n-1}$
B. $a_{n}=10 \cdot(2)^{n-1}$
C. $a_{n}=2 \cdot\left(\frac{5}{4}\right)^{n-1}$
D. $a_{n}=2 \cdot(4)^{n-1}$

