Guided Practice

5.6

Set 1

1 Write in exponential form.

$8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8$
8^9

2 Evaluate -3^6.

$-(3 \times 3 \times 3 \times 3 \times 3 \times 3)$
-729

3 Evaluate 4 to the 4th power.

4^4
$4 \times 4 \times 4 \times 4$
256

Set 2

Evaluate.

1 $-4^2 \times (-2)^4$
-16×16
-256

2 $3(8-4)^3$
$3(4)^3$
$3(64)$
192

3 $4^4 - 2^8$
$256 - 256$
0

Set 3

Evaluate.

1 $6^3 \times 5^0$
216×1
216

2 8^{-3}
$\dfrac{1}{8^3}$
$\dfrac{1}{512}$

Set 4

1 A true/false test has 10 questions. How many different ways are there to answer all 10 questions?

$2^{10} = 1,024$
There are 1,024 different ways to answer 10 true/false questions.

2 On the first day, there were two rabbits. If the number of rabbits doubled every month, how many rabbits were there after six months?

1 month: $\ \ 2 \times 2$ **or** 2^2
2 months: $2 \times 2 \times 2$ **or** 2^3
3 months: $2 \times 2 \times 2 \times 2$ **or** 2^4
.
.
6 months: $2^7 = 128$
There were 128 rabbits after six months.