

Desert Explorers: The Factor Quest

Math

Grade 4

Desert Theme

□ Help our Desert adventurers solve their factor mysteries by finding all the factors in each sandy situation!

NAME _____

DATE _____

SCORE _____ / 8

1

Cactus Carl is organizing his collection of desert gems into equal groups. He has 12 gems and wants to arrange them so each group has the same number with no gems left over. What are ALL the different ways he can group his gems? List all the factors of 12.

2

Sheila the Scorpion found 18 grains of sand that she wants to divide equally among her scorpion friends for a desert party. What are all the possible numbers of friends she could invite so everyone gets the same amount? Find all factors of 18.

3

Desert Dwight the Lizard is building a rectangular sunbathing rock with exactly 24 flat stones. He wants to arrange them in rows and columns with no stones left over. How many different rectangular arrangements can Dwight make? (Hint: Find all factor pairs of 24.)

4

Petra the Camel is packing water bottles for her desert journey. She has 20 bottles and wants to pack them into containers so each container holds the same number with none left behind. What are all the factor pairs of 20 that could help her pack?

5

Rascal Raven the Desert Bird collected 16 shiny pebbles and wants to hide them in equal piles around the oasis. List all the factors of 16 so Raven knows exactly how many hiding spots to create.

6

Sandy the Snake is organizing a desert dance party with 30 guests. She needs to arrange them into equal circles so no one is left standing alone. What are all the different numbers of circles Sandy could make? Find all factors of 30.

7

Dusty the Desert Fox has 15 pieces of jerky to share equally among her fox family members with nothing wasted. What are all the possible family sizes she could invite to her feast? List all factors of 15.

8

Oasis Oscar wants to plant 28 desert flowers in straight rows with the same number of flowers in each row and no flowers left over. How many different row arrangements can Oscar create? Find all the factors of 28.

Answer Key

Math

Grade 4

For Parents and Teachers

1

Cactus Carl is organizing his collection of desert gems into equal groups. He has 12 gems and wants to arrange them so each group has the same number with no gems left over. What are ALL the different ways he can group his gems? List all the factors of 12.

ANSWER

1, 2, 3, 4, 6, 12

2

Sheila the Scorpion found 18 grains of sand that she wants to divide equally among her scorpion friends for a desert party. What are all the possible numbers of friends she could invite so everyone gets the same amount? Find all factors of 18.

ANSWER

1, 2, 3, 6, 9, 18

3

Desert Dwight the Lizard is building a rectangular sunbathing rock with exactly 24 flat stones. He wants to arrange them in rows and columns with no stones left over. How many different rectangular arrangements can Dwight make? (Hint: Find all factor pairs of 24.)

ANSWER

8 different arrangements (1×24, 2×12, 3×8, 4×6, 6×4, 8×3, 12×2, 24×1)

4

Petra the Camel is packing water bottles for her desert journey. She has 20 bottles and wants to pack them into containers so each container holds the same number with none left behind. What are all the factor pairs of 20 that could help her pack?

ANSWER

1 and 20, 2 and 10, 4 and 5

5

Rascal Raven the Desert Bird collected 16 shiny pebbles and wants to hide them in equal piles around the oasis. List all the factors of 16 so Raven knows exactly how many hiding spots to create.

ANSWER

1, 2, 4, 8, 16

6

Sandy the Snake is organizing a desert dance party with 30 guests. She needs to arrange them into equal circles so no one is left standing alone. What are all the different numbers of circles Sandy could make? Find all factors of 30.

ANSWER

1, 2, 3, 5, 6, 10, 15, 30

7

Dusty the Desert Fox has 15 pieces of jerky to share equally among her fox family members with nothing wasted. What are all the possible family sizes she could invite to her feast? List all factors of 15.

ANSWER

1, 3, 5, 15

8

Oasis Oscar wants to plant 28 desert flowers in straight rows with the same number of flowers in each row and no flowers left over. How many different row arrangements can Oscar create? Find all the factors of 28.

ANSWER

1, 2, 4, 7, 14, 28