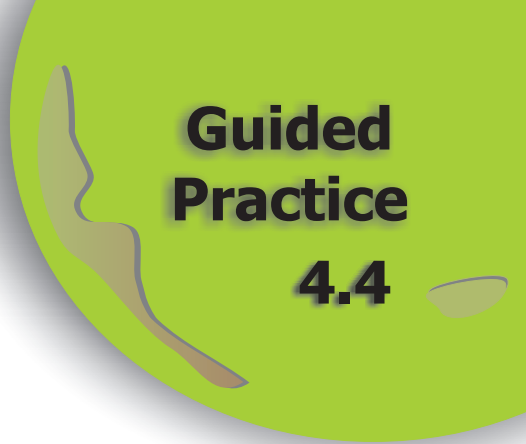


NAME _____

Module 4 Fractions, Decimals, Percents, and Factors
Lesson 4 Prime Factorization, GCF, and LCM



Guided Practice

4.4

Set 1

Find the LCM.

1 10 and 12

10: 10, 20, 30, 40, 50, 60, ...
12: 12, 24, 36, 48, 60, 72, ...

LCM = 60

2 16 and 20

16: 16, 32, 48, 64, 80, 96, ...
20: 20, 40, 60, 80, 100, ...

LCM = 80

3 4, 12, and 15

4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40,
44, 48, 52, 56, 60
12: 12, 24, 36, 48, 60, 72, 84, ...
15: 15, 30, 45, 60, 75, 90, ...

LCM = 60

Set 2

Find the LCM using prime factorization.

1 28 and 40

$$\begin{array}{r} 28 = 2 \times 2 \quad \times 7 \\ 40 = 2 \times 2 \times 2 \times 5 \\ \quad \downarrow \downarrow \downarrow \downarrow \downarrow \\ \text{LCM} = 2 \times 2 \times 2 \times 5 \times 7 \\ \text{LCM} = 280 \end{array}$$

2 32 and 50

$$\begin{array}{r} 32 = 2 \times 2 \times 2 \times 2 \times 2 \\ 50 = 2 \quad \times 5 \times 5 \\ \quad \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \\ \text{LCM} = 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5 \\ \text{LCM} = 800 \end{array}$$

3 10, 14, and 16

$$\begin{array}{r} 10 = 2 \quad \times 5 \\ 14 = 2 \quad \times 7 \\ 16 = 2 \times 2 \times 2 \times 2 \\ \quad \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \\ \text{LCM} = 2 \times 2 \times 2 \times 2 \times 5 \times 7 \\ \text{LCM} = 560 \end{array}$$

Set 3

1

A box of eight spaceburgers costs \$6, a package of 10 buns costs \$2, and a package of 12 slices of cheese costs \$3. What is the minimum number of dollars needed to get equal numbers of burgers, buns, and slices of cheese?

$$\text{LCM of 8, 10, and 12} = 120$$

$$120 \div 8 = 15$$

$$120 \div 10 = 12$$

$$120 \div 12 = 10$$

$$\begin{array}{r} (15 \times \$6) + (12 \times \$2) + (10 \times \$3) \\ \$90 \quad + \quad \$24 \quad + \quad \$30 \end{array}$$

$$\text{\$144}$$

2

Joann, Jackie, and Susan see each other when they visit their grandparents who live next to each other. Joann visits her grandparents every two weeks. Jackie visits hers every three weeks. Susan visits every four weeks. If they are all at their grandparents' this weekend, how many weeks will it be before they are all at their grandparents' at the same time?

$$2: 2, 4, 6, 8, 10, 12, \dots$$

$$3: 3, 6, 9, 12, 15 \dots$$

$$4: 4, 8, 12, 16 \dots$$

$$\text{LCM} = 12$$

Girls visit at the same time again in 12 weeks.

Set 4

1

Vince is decorating pastries with almonds, walnuts, and pecans. He wants to make as many identical pastries as possible, with no decorations left over. If he has 30 almonds, 36 walnuts, and 42 pecans, how many nuts will each pastry contain?

$$\text{GCF of 30, 36, and 42 is 6.}$$

$$30 \div 6 = 5 \text{ almonds}$$

$$36 \div 6 = 6 \text{ walnuts}$$

$$42 \div 6 = 7 \text{ pecans}$$

$$\text{Each pastry: } 5 + 6 + 7 = 18 \text{ nuts}$$

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Space campers are going on a field trip to the space zoo in buses. There are 40 teachers, 50 students, and 32 androids going on the trip. Each bus must contain an identical combination of teachers, students, and androids, and there should be as few buses as possible. Entrance to the zoo is \$5 for teachers, \$3 for students, and \$1 for androids. What will be the total entrance fee for each bus?

GCF of 40, 50, and 32 is 2.

$$40 \div 2 = 20 \text{ teachers}$$

$$50 \div 2 = 25 \text{ students}$$

$$32 \div 2 = 16 \text{ androids}$$

Entrance Fee for Each Bus

$$(20 \times \$5) + (25 \times \$3) + (16 \times \$1)$$

$$\$100 + \$75 + \$16$$

\$191

