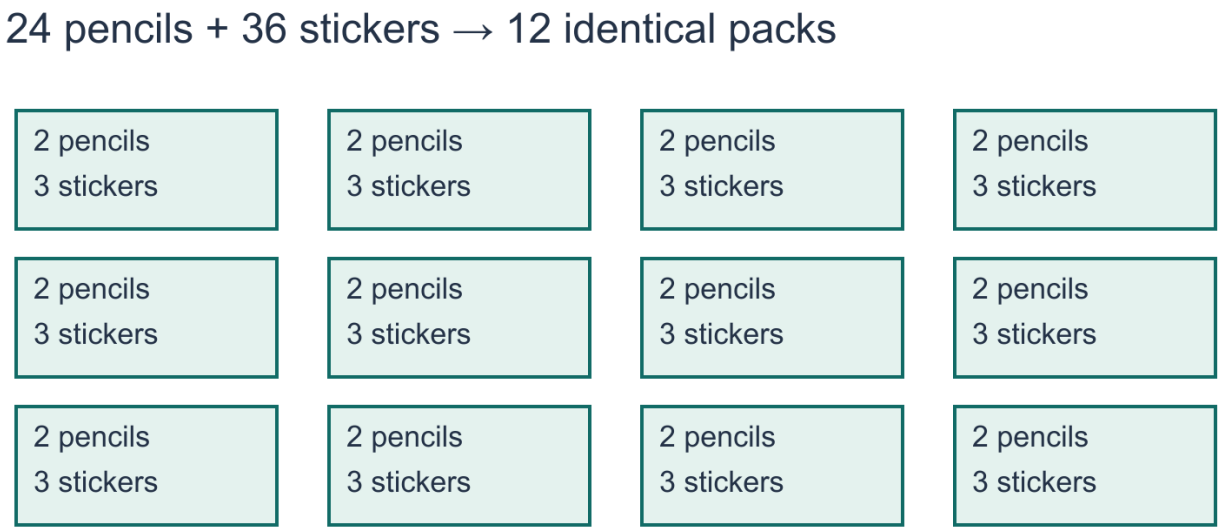
HCF word problems: make the most identical packs

Grade 6 · Practice and answer pack

You have 24 pencils and 36 stickers. How many identical gift packs can you make without leftovers? The question asks for a number that divides both collections.

The highest common factor (HCF) is the greatest whole number that divides each given number exactly. For the largest number of identical packs using everything, find the HCF of the item counts.

Independent BananaLearn resource. Not an official exam paper or endorsed assessment.



Twelve packs are arranged in three rows of four. Each contains two pencils and three stickers.

Matching complete guide

bananalearn.com/learn/grade-6-hcf-packing-equal-groups.html

Try before looking at the answers

Name (optional): _____ Date: _____

Show your method or explain your choice. Work through a short group at a time. Questions are original practice, not a complete syllabus assessment.

1. HCF of 18 and 30

2. Greatest number of identical packs from 20 pens and 28 erasers

3. Longest equal piece from 45 cm and 60 cm

4. HCF of 8 and 15

5. Is 24 the HCF of 24 and 36?

6. Greatest number of identical packs using 18 pens and 24 cards?

7. Longest equal pieces from 72 cm and 90 cm ribbons?

8. HCF of 30, 45 and 75?

9. Two bells ring every 8 and 12 minutes. HCF or LCM for their next shared ring?

10. Find HCF(84,126) using division.

11. Can 12 be the HCF of 48 and 60?

12. Use 40 apples and 56 oranges in 8 identical baskets. Is 8 the greatest possible number?

13. HCF of two different prime numbers?

Answers and reasoning

Compare the explanation as well as the answer. If a method is unclear, revisit the matching guide and try a changed example.

1. HCF of 18 and 30

6

18 = 2 × 3² and 30 = 2 × 3 × 5; common product is 6.

2. Greatest number of identical packs from 20 pens and 28 erasers

4 packs

Each pack contains 5 pens and 7 erasers.

3. Longest equal piece from 45 cm and 60 cm

15 cm

45 ÷ 15 = 3 and 60 ÷ 15 = 4.

4. HCF of 8 and 15

1

They have no common prime factor.

5. Is 24 the HCF of 24 and 36?

No; it is 12

24 does not divide 36 exactly.

6. Greatest number of identical packs using 18 pens and 24 cards?

6 packs; 3 pens and 4 cards each

HCF(18,24)=6. Both contents must be stated.

7. Longest equal pieces from 72 cm and 90 cm ribbons?

18 cm

72/18=4 and 90/18=5; nine pieces altogether.

8. HCF of 30, 45 and 75?

15

15 divides all three, and no larger common factor does.

9. Two bells ring every 8 and 12 minutes. HCF or LCM for their next shared ring?

LCM

A future time must be a multiple of both intervals; the first is 24 minutes.

10. Find HCF(84,126) using division.

42

126−84=42 and 84 is exactly divisible by 42.

11. Can 12 be the HCF of 48 and 60?

Yes

48=4×12 and 60=5×12; 4 and 5 have no further common factor.

12. Use 40 apples and 56 oranges in 8 identical baskets. Is 8 the greatest possible number?

Yes; HCF is 8

Each basket has 5 apples and 7 oranges.

13. HCF of two different prime numbers?

1

Their only shared positive factor is 1.

Check understanding

• What must divide every total?

• Does your proposed factor work for all collections?

• Have you labelled the result as packs, length or contents per pack?