DraftKids
Learn through sports

PRINTABLE · GRADES 3–5 · AGES 8–11

Jersey Number Factors

Every player on the Maple Grove Comets basketball team picked a jersey number. Some numbers have lots of factors, and some are **prime**. Use the roster and the toolkit to answer each question.

Name _____

Date _____

FACTOR TOOLKIT

Factor — divides a number with no remainder

Factor pair — two factors that multiply: 3 × 4 = 12

Multiple — skip-count: 3, 6, 9, 12 …

Prime — exactly 2 factors: 1 and itself

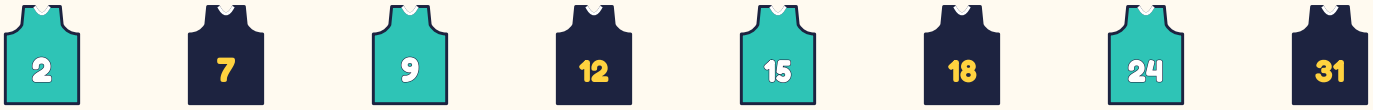
Composite — more than 2 factors



1 × 12
2 × 6
3 × 4

12 HAS 3 FACTOR PAIRS

MAPLE GROVE COMETS · STARTING ROSTER



ROOKIE

1 Priya wears **#24**. List every factor pair of 24. How many factors does 24 have?

WORK SPACE

_____ **factors**

ROOKIE

2 Which jersey numbers on the Comets roster are **prime**?

WORK SPACE

_____

STARTER

3 Which jersey numbers on the roster are **multiples of 3**?

WORK SPACE

_____

STARTER

4 Which jersey numbers on the roster are **factors of 36**?

WORK SPACE

_____

PRO

5 June wears **#15**. Is 15 prime or composite? List all of its factors.

WORK SPACE

_____ _____

PRO

6 Theo made only 3-pointers in a game. Could he have scored exactly **20 points**? Explain.

WORK SPACE

yes / no _____

ALL-STAR

7 Coach splits 24 campers into equal teams. Each team must have **more than 2** and **fewer than 12** players. List every team size that works.

WORK SPACE

_____ **players**

CHALLENGE ★

8 Challenge: A new player's number is between 31 and 50. It is **prime**, and its two digits add up to **10**. What is the number?

WORK SPACE

_____

A Locker Room Factor Table

Fill in each row. Finding pairs in order (1 ×, 2 ×, 3 × …) helps you not miss any. Count every different factor once.

JERSEY	ALL FACTOR PAIRS	# OF FACTORS	PRIME OR COMPOSITE?
16			
20			
29			
36			

1. Look at your table. Which two jerseys have an **odd** number of factors? What do their factor pairs have in common?

_____ **and #** _____

B Scoreboard Multiples

A multiple is what you land on when you skip-count. Multiples of 4: 4, 8, 12 …

1. List the first 10 multiples of 4.

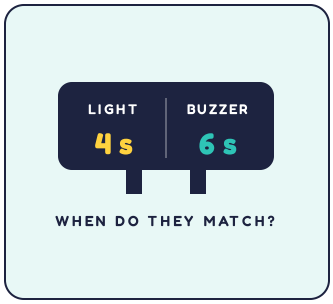
_____

2. At practice, a light flashes every **4** seconds and a buzzer sounds every **6** seconds. Both start at 0. In the first 30 seconds, at which seconds do they happen **together**?

_____ **s and** _____ **s**

3. The Comets scored **only 2-point baskets** in one quarter. Which score could they have: 15, 22 or 31?

_____ **points**



C Prime Court

A prime number has exactly two factors: 1 and itself. Hint: 2 is the only even prime.

PRIME COURT · 1 TO 50

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

1. Shade every **prime** number on the chart. How many primes are there from 1 to 50?

_____ **primes**

2. Ty says, "Every odd number is prime." Name an odd number on the chart that proves Ty wrong, and give one of its factors (not 1).

_____ **factor** _____

3. Is the number **1** prime, composite or neither? Explain.

_____

BONUS · NOT SCORED

Pick a jersey number you would wear. List all of its factors. Is it prime or composite? Ask a friend to try theirs.

Answer Key (for teachers & parents)

Answers for **Jersey Number Factors**, with the work shown. Print pages 1 and 2 for students and keep this page for checking. Teams and players are made up. In basketball, a shot from behind the 3-point line is worth 3 points and other baskets are worth 2.

Page 1 Problems

1. Answer: **8 factors**
   pairs: 1×24, 2×12, 3×8, 4×6
2. Answer: **#2, 7, 31**
   each has only 2 factors
3. Answer: **#9, 12, 15, 18, 24**
   skip-count by 3; 2, 7 and 31 are not multiples
4. Answer: **#2, 9, 12, 18**
   36 = 2×18 = 3×12 = 4×9 = 6×6
5. Answer: **composite; 1, 3, 5, 15**
   15 = 3 × 5, so it has more than 2 factors
6. Answer: **No**
   3-pointers make multiples of 3: ...18, 21. 20 is not one
7. Answer: **3, 4, 6, 8 players**
   24 = 3×8 = 4×6 (2, 12 and 24 are left out)
8. Answer: **#37**
   primes 31–50: 31, 37, 41, 43, 47; only 3 + 7 = 10

A · Locker Room Factor Table

1. Answer: **16: 1×16, 2×8, 4×4; 5 factors, composite**
2. Answer: **20: 1×20, 2×10, 4×5; 6 factors, composite**
3. Answer: **29: 1×29; 2 factors, prime**
4. Answer: **36: 1×36, 2×18, 3×12, 4×9, 6×6; 9 factors, composite**

Question 1: Answer: **#16 and #36**
one pair repeats a number (4×4, 6×6), so it counts once

Quick score

Page 1 problems (#8 = 2)	_____ / 9
A · Table (4 rows) + question	_____ / 5
B · Scoreboard Multiples	_____ / 3
C · Prime Court	_____ / 3
Total	_____ **/ 20**

Skills practiced

Factor pairs · Finding all factors · Multiples · Prime numbers · Composite numbers · Common multiples · Skip-counting · Explaining reasoning

Teaching tip: Have kids build each jersey number as rectangles of square tiles. Every different rectangle is a factor pair, and a prime number can only make one long row.

B · Scoreboard Multiples

1. Answer: **4, 8, 12, 16, 20, 24, 28, 32, 36, 40**
2. Answer: **12 s and 24 s**
   4, 8, 12 ... and 6, 12, 18, 24 ... match at 12 and 24
3. Answer: **22 points**
   22 = 11 × 2; 15 and 31 are odd

C · Prime Court

1. Answer: **15 primes**
   2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47
2. Answer: **e.g. 9 (factor 3)**
   also 15, 21, 25, 27, 33, 35, 39, 45, 49
3. Answer: **Neither**
   1 has only one factor, itself

Enjoyed this? A quick review on TPT helps us make more free sheets! Follow the DraftKids store for new ones.