



# Home Learning Activity Booklet



# Football-Themed Code Breaker

Solve the calculations and use the code breaker to spell out football-themed words.

| A | B  | C  | D | E  | F  | G  | H | I  | J | K  | L  | M |
|---|----|----|---|----|----|----|---|----|---|----|----|---|
| 6 | 15 | 21 | 5 | 13 | 24 | 18 | 7 | 12 | 1 | 25 | 19 | 9 |

| N  | O  | P  | Q  | R | S  | T  | U | V  | W | X  | Y  | Z |
|----|----|----|----|---|----|----|---|----|---|----|----|---|
| 22 | 16 | 11 | 26 | 2 | 17 | 20 | 3 | 10 | 8 | 14 | 23 | 4 |

| 1.                | Answer | Letter |
|-------------------|--------|--------|
| $500 \div 100$    |        |        |
| $1300 \div 100$   |        |        |
| $2400 \div 100$   |        |        |
| $1.3 \times 10$   |        |        |
| $220 \div 10$     |        |        |
| $5000 \div 1000$  |        |        |
| $13000 \div 1000$ |        |        |
| $0.02 \times 100$ |        |        |

| 2.                | Answer | Letter |
|-------------------|--------|--------|
| $9000 \div 1000$  |        |        |
| $0.06 \times 100$ |        |        |
| $200 \div 10$     |        |        |
| $0.21 \times 100$ |        |        |
| $70 \div 10$      |        |        |

| 3.                | Answer | Letter |
|-------------------|--------|--------|
| $200 \div 100$    |        |        |
| $130 \div 10$     |        |        |
| $2.4 \times 10$   |        |        |
| $0.13 \times 100$ |        |        |
| $0.2 \times 10$   |        |        |
| $1300 \div 100$   |        |        |
| $1.3 \times 10$   |        |        |

| 4.                | Answer | Letter |
|-------------------|--------|--------|
| $150 \div 10$     |        |        |
| $0.06 \times 100$ |        |        |
| $0.19 \times 100$ |        |        |
| $190 \div 10$     |        |        |

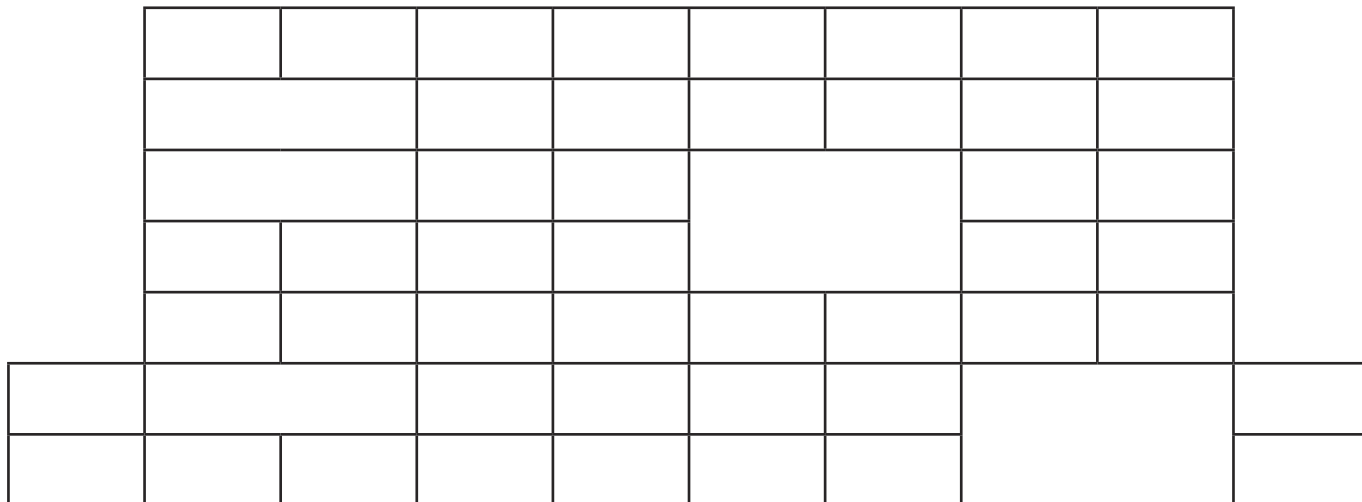
| 5.                | Answer | Letter |
|-------------------|--------|--------|
| $25000 \div 1000$ |        |        |
| $120 \div 10$     |        |        |
| $2100 \div 100$   |        |        |
| $2.5 \times 10$   |        |        |

| 6.                  | Answer | Letter |
|---------------------|--------|--------|
| $0.018 \times 1000$ |        |        |
| $1.6 \times 10$     |        |        |
| $600 \div 100$      |        |        |
| $0.019 \times 1000$ |        |        |
| $0.25 \times 100$   |        |        |
| $0.013 \times 1000$ |        |        |
| $13000 \div 1000$   |        |        |
| $0.11 \times 100$   |        |        |
| $13 \times 1$       |        |        |
| $0.02 \times 100$   |        |        |

# Football-Themed Stained Glass Fractions

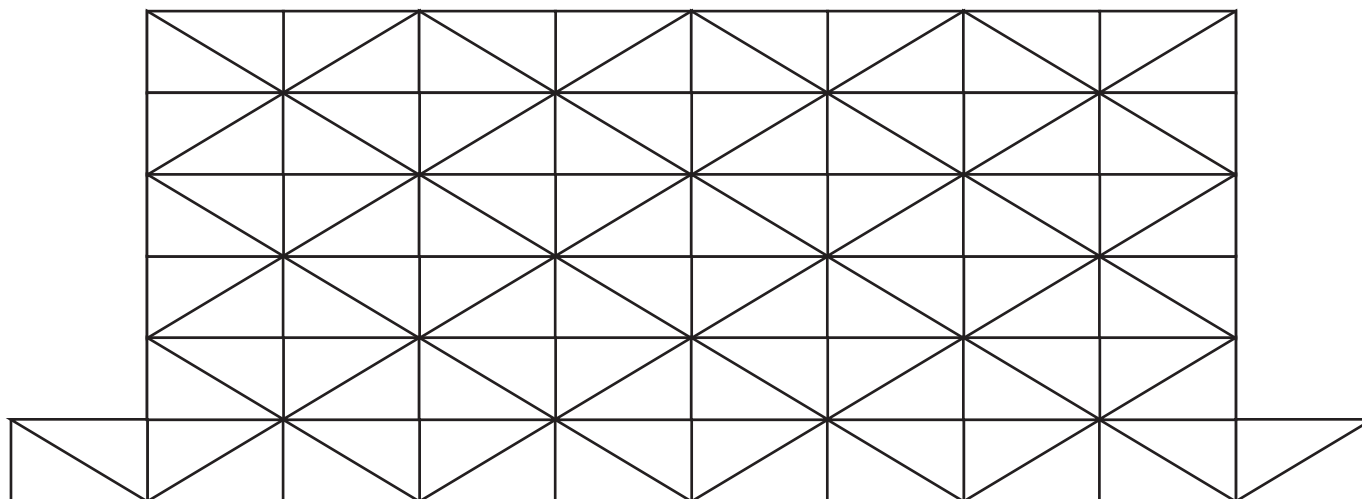
Colour the football net, stained-glass fraction windows to match the fractions listed. Don't forget that the shape must be divided into equal parts.

1.



| Colour               | Blue          | Red           | Green         | Yellow        | White          |
|----------------------|---------------|---------------|---------------|---------------|----------------|
| Fraction             | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{1}{5}$ | $\frac{1}{6}$ | $\frac{1}{20}$ |
| Number of Rectangles |               |               |               |               |                |

2.

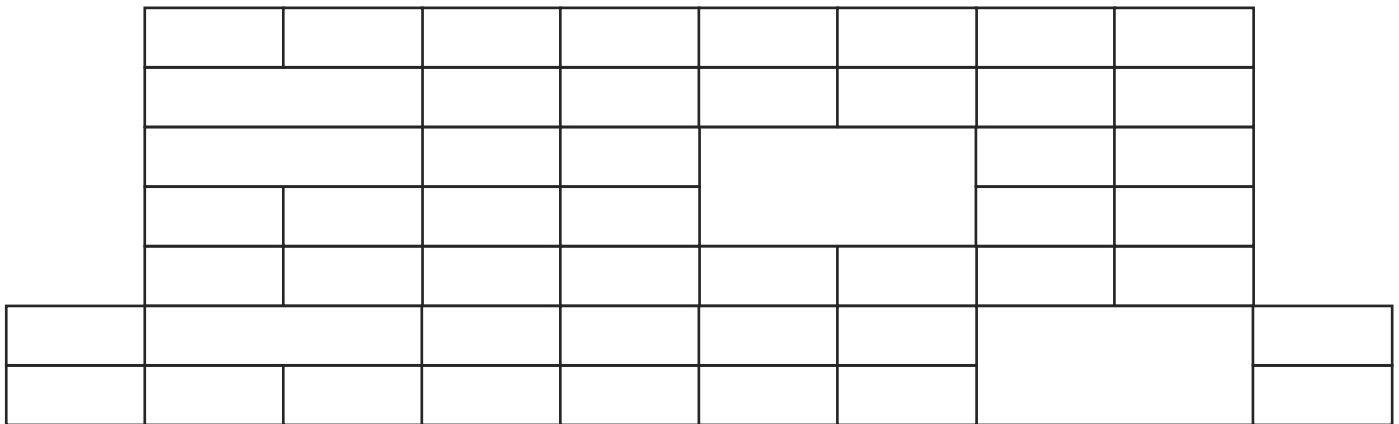


| Colour                           | Blue          | Red            | Green          | Yellow         | Orange        |
|----------------------------------|---------------|----------------|----------------|----------------|---------------|
| Fraction                         | $\frac{1}{5}$ | $\frac{3}{10}$ | $\frac{3}{20}$ | $\frac{3}{20}$ | $\frac{1}{5}$ |
| Number of Rectangles             |               |                |                |                |               |
| Number of Right-Angled Triangles |               |                |                |                |               |

# Football-Themed Stained Glass Fractions

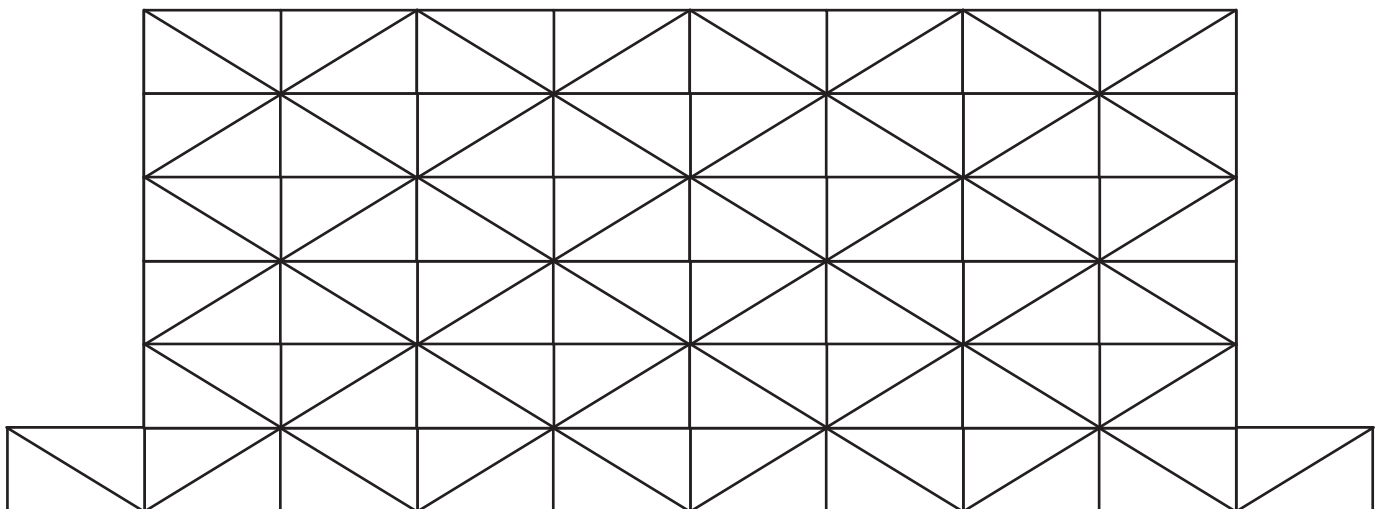
Create your own football net, stained-glass fraction windows. Write the number of parts you have used for each colour as a fraction. Don't forget that the shape must be divided into equal parts.

3.



|                      |  |  |  |  |  |
|----------------------|--|--|--|--|--|
| Colour               |  |  |  |  |  |
| Fraction             |  |  |  |  |  |
| Number of Rectangles |  |  |  |  |  |

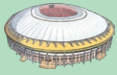
4.

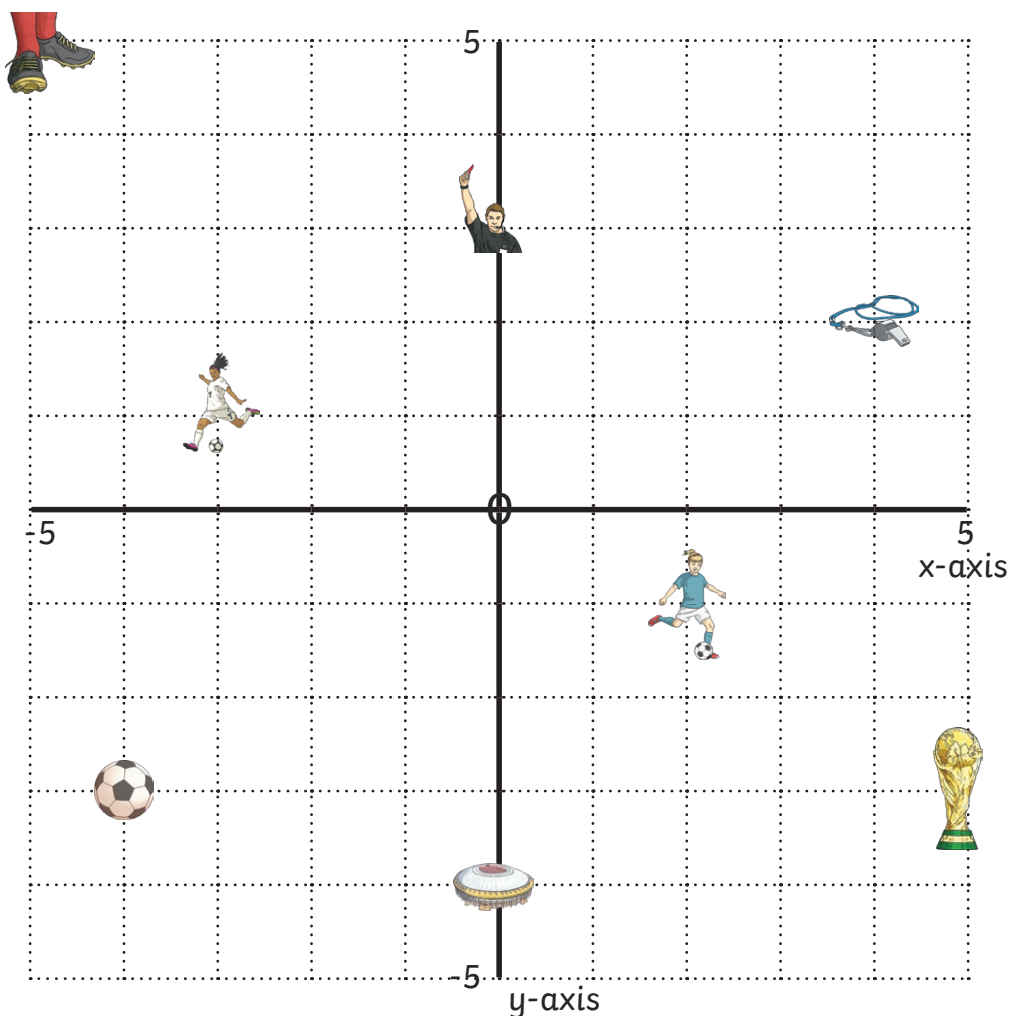


|                                  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|
| Colour                           |  |  |  |  |  |
| Fraction                         |  |  |  |  |  |
| Number of Rectangles             |  |  |  |  |  |
| Number of Right-Angled Triangles |  |  |  |  |  |

# Football-Themed Coordinates

Write the coordinates of the football-themed objects. Translate them and write the new coordinate.

| Object                                                                            | Starting Coordinate | Translation     | Finishing Coordinate |
|-----------------------------------------------------------------------------------|---------------------|-----------------|----------------------|
|  |                     | Right 4, Up 6   |                      |
|  |                     | Right 5, Down 7 |                      |
|  |                     | Left 4, Down 3  |                      |
|  |                     | Left 1, Up 2    |                      |
|  |                     | Right 3, Down 1 |                      |
|  |                     | Right 1, Up 3   |                      |
|  |                     | Left 8, Up 6    |                      |
|  |                     | Left 1, Down 1  |                      |



# Football-Themed Multiplying Decimals Mosaic

Solve the calculations to reveal the hidden picture. Each answer has a special colour.

|                                  |                                   |                                 |                                   |                                 |                                   |
|----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|
| blue =<br>answer<br>has 2 tenths | white =<br>answer<br>has 3 tenths | red =<br>answer<br>has 4 tenths | black =<br>answer<br>has 5 tenths | skin colour of<br>your choice = | green =<br>answer<br>has 7 tenths |
|----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|

|                 |                 |                 |                 |                |                |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|-----------------|
| $0.2 \times 6$  | $1.1 \times 12$ | $1.2 \times 11$ | $0.9 \times 8$  | $0.8 \times 9$ | $0.2 \times 3$ | $0.8 \times 12$ | $1.2 \times 8$  | $0.6 \times 12$ |
| $1.2 \times 6$  | $0.6 \times 7$  | $0.7 \times 6$  | $0.4 \times 8$  | $0.8 \times 4$ | $0.7 \times 8$ | $0.8 \times 7$  | $0.6 \times 11$ | $0.3 \times 4$  |
| $0.4 \times 3$  | $1.1 \times 2$  | $0.2 \times 11$ | $0.6 \times 2$  | $0.8 \times 9$ | $1.1 \times 6$ | $0.6 \times 6$  | $0.9 \times 4$  | $0.8 \times 4$  |
| $0.2 \times 6$  | $1.1 \times 12$ | $1.2 \times 11$ | $0.9 \times 8$  | $0.8 \times 9$ | $0.4 \times 9$ | $0.4 \times 4$  | $0.3 \times 12$ | $0.6 \times 12$ |
| $1.2 \times 11$ | $0.9 \times 8$  | $0.8 \times 9$  | $0.2 \times 2$  | $1.1 \times 3$ | $0.2 \times 7$ | $0.9 \times 7$  | $0.7 \times 2$  | $0.2 \times 12$ |
| $0.4 \times 3$  | $1.2 \times 2$  | $0.3 \times 8$  | $0.8 \times 3$  | $0.7 \times 9$ | $0.4 \times 6$ | $0.3 \times 11$ | $0.6 \times 4$  | $0.4 \times 11$ |
| $1.1 \times 4$  | $0.6 \times 9$  | $0.9 \times 6$  | $0.7 \times 12$ | $1.1 \times 3$ | $1.2 \times 7$ | $0.8 \times 8$  | $0.9 \times 7$  | $1.2 \times 12$ |
| $0.7 \times 2$  | $0.2 \times 12$ | $1.2 \times 2$  | $0.3 \times 8$  | $0.8 \times 3$ | $0.7 \times 9$ | $0.4 \times 6$  | $0.7 \times 9$  | $1.1 \times 4$  |
| $0.5 \times 3$  | $1.1 \times 5$  | $0.5 \times 11$ | $0.9 \times 5$  | $0.5 \times 9$ | $0.5 \times 7$ | $0.7 \times 5$  | $0.5 \times 5$  | $0.5 \times 3$  |
| $1.1 \times 5$  | $0.9 \times 3$  | $0.9 \times 5$  | $0.7 \times 11$ | $0.5 \times 7$ | $1.1 \times 7$ | $0.5 \times 5$  | $0.3 \times 9$  | $0.7 \times 5$  |

**Challenge:** Explain how the following calculations are related:

$$2 \times 7 = 14$$

$$0.02 \times 7 = 0.14$$

$$2 \times 0.7 = 1.4$$

# Football-Themed Multiples and Prime Numbers Mosaic

Solve the calculations to reveal the hidden picture. Each answer has a special colour.

blue =  
multiples of 4

green =  
multiples of 7

yellow =  
prime numbers

black =  
multiples of 9

|    |     |     |    |    |    |    |    |    |
|----|-----|-----|----|----|----|----|----|----|
| 4  | 100 | 96  | 2  | 41 | 67 | 88 | 60 | 16 |
| 92 | 19  | 47  | 29 | 37 | 71 | 59 | 3  | 32 |
| 79 | 20  | 31  | 17 | 19 | 61 | 73 | 40 | 13 |
| 5  | 44  | 53  | 97 | 43 | 11 | 83 | 24 | 89 |
| 16 | 23  | 13  | 47 | 29 | 37 | 71 | 59 | 52 |
| 80 | 68  | 104 | 17 | 19 | 61 | 60 | 64 | 8  |
| 4  | 100 | 96  | 20 | 2  | 88 | 60 | 16 | 52 |
| 21 | 91  | 91  | 77 | 67 | 70 | 14 | 42 | 35 |
| 35 | 21  | 14  | 19 | 61 | 73 | 35 | 14 | 91 |
| 91 | 77  | 81  | 18 | 45 | 90 | 54 | 21 | 14 |

**Challenge:** Find all of the two-digit numbers that are multiples of 4 and 9.

# Football-Themed Code Breaker Answers

Solve the calculations and use the code breaker to spell out football-themed words.

| A | B  | C  | D | E  | F  | G  | H | I  | J | K  | L  | M |
|---|----|----|---|----|----|----|---|----|---|----|----|---|
| 6 | 15 | 21 | 5 | 13 | 24 | 18 | 7 | 12 | 1 | 25 | 19 | 9 |

| N  | O  | P  | Q  | R | S  | T  | U | V  | W | X  | Y  | Z |
|----|----|----|----|---|----|----|---|----|---|----|----|---|
| 22 | 16 | 11 | 26 | 2 | 17 | 20 | 3 | 10 | 8 | 14 | 23 | 4 |

| 1.                | Answer | Letter |
|-------------------|--------|--------|
| $500 \div 100$    | 5      | D      |
| $1300 \div 100$   | 13     | E      |
| $2400 \div 100$   | 24     | F      |
| $1.3 \times 10$   | 13     | E      |
| $220 \div 10$     | 22     | N      |
| $5000 \div 1000$  | 5      | D      |
| $13000 \div 1000$ | 13     | E      |
| $0.02 \times 100$ | 2      | R      |

| 2.                | Answer | Letter |
|-------------------|--------|--------|
| $9000 \div 1000$  | 9      | M      |
| $0.06 \times 100$ | 6      | A      |
| $200 \div 10$     | 20     | T      |
| $0.21 \times 100$ | 21     | C      |
| $70 \div 10$      | 7      | H      |

| 3.                | Answer | Letter |
|-------------------|--------|--------|
| $200 \div 100$    | 2      | R      |
| $130 \div 10$     | 13     | E      |
| $2.4 \times 10$   | 24     | F      |
| $0.13 \times 100$ | 13     | E      |
| $0.2 \times 10$   | 2      | R      |
| $1300 \div 100$   | 13     | E      |
| $1.3 \times 10$   | 13     | E      |

| 4.                | Answer | Letter |
|-------------------|--------|--------|
| $150 \div 10$     | 15     | B      |
| $0.06 \times 100$ | 6      | A      |
| $0.19 \times 100$ | 19     | L      |
| $190 \div 10$     | 19     | L      |

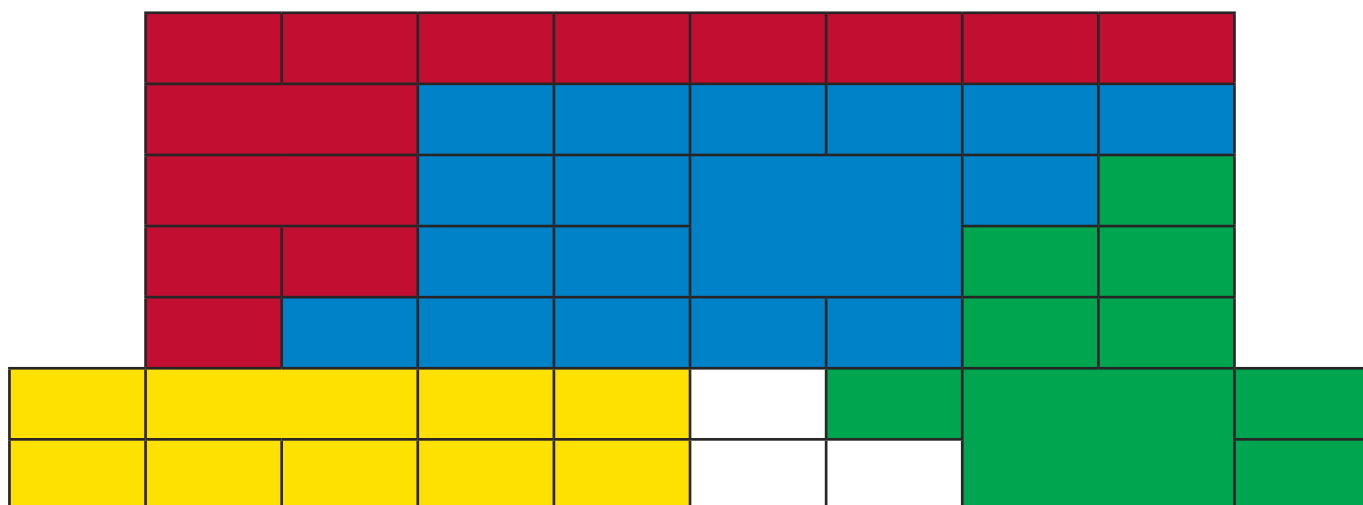
| 5.                | Answer | Letter |
|-------------------|--------|--------|
| $25000 \div 1000$ | 25     | K      |
| $120 \div 10$     | 12     | I      |
| $2100 \div 100$   | 21     | C      |
| $2.5 \times 10$   | 25     | K      |

| 6.                  | Answer | Letter |
|---------------------|--------|--------|
| $0.018 \times 1000$ | 18     | G      |
| $1.6 \times 10$     | 16     | O      |
| $600 \div 100$      | 6      | A      |
| $0.019 \times 1000$ | 19     | L      |
| $0.25 \times 100$   | 25     | K      |
| $0.013 \times 1000$ | 13     | E      |
| $13000 \div 1000$   | 13     | E      |
| $0.11 \times 100$   | 11     | P      |
| $13 \times 1$       | 13     | E      |
| $0.02 \times 100$   | 2      | R      |

# Football-Themed Stained Glass Fractions **Answers**

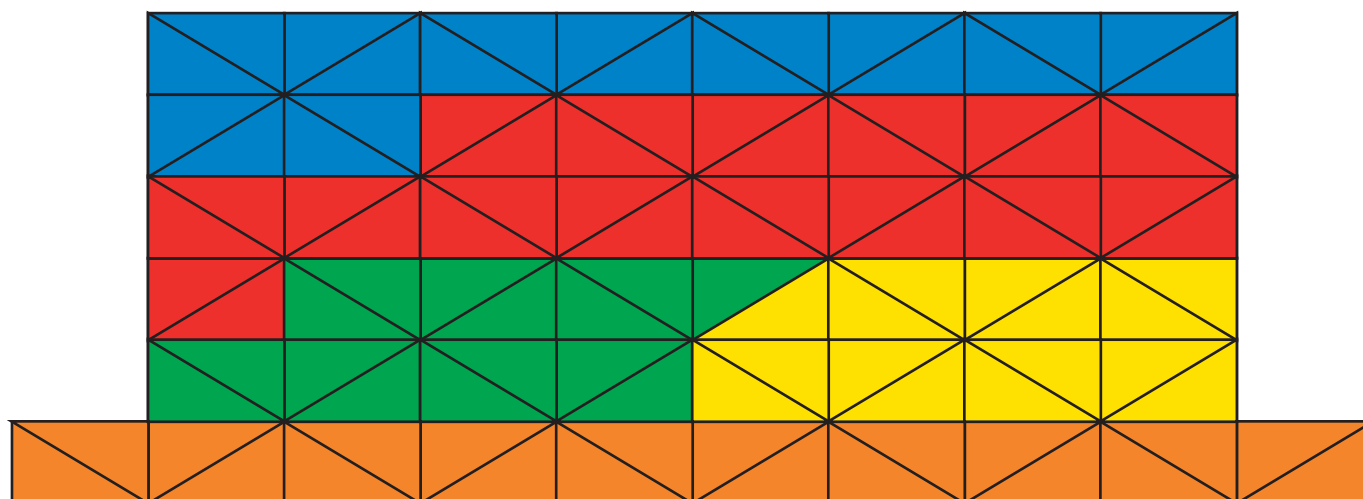
Colour the football net, stained-glass fraction windows to match the fractions listed. Don't forget that the shape must be divided into equal parts.

1.



| Colour               | Blue          | Red           | Green         | Yellow        | White          |
|----------------------|---------------|---------------|---------------|---------------|----------------|
| Fraction             | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{1}{5}$ | $\frac{1}{6}$ | $\frac{1}{20}$ |
| Number of Rectangles | <b>20</b>     | <b>15</b>     | <b>12</b>     | <b>10</b>     | <b>3</b>       |

2.

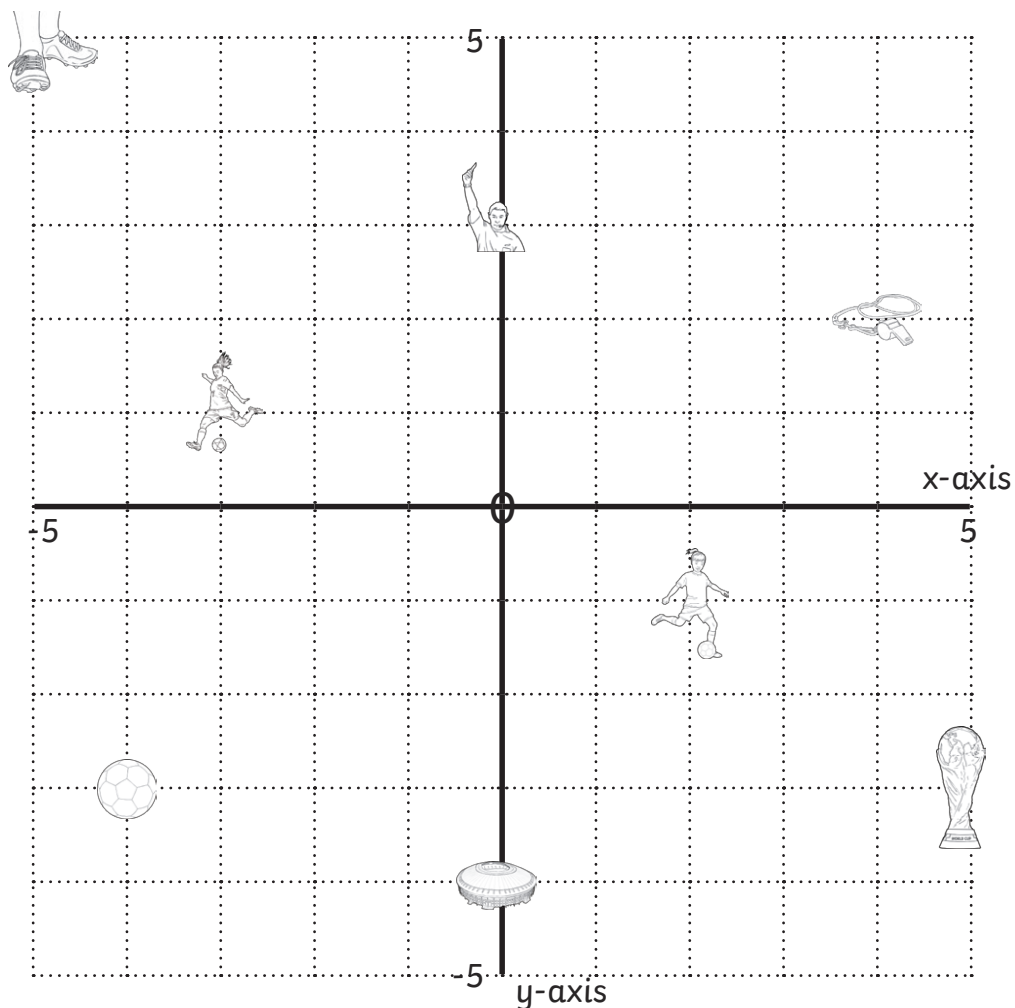


| Colour                           | Blue          | Red            | Green          | Yellow         | Orange        |
|----------------------------------|---------------|----------------|----------------|----------------|---------------|
| Fraction                         | $\frac{1}{5}$ | $\frac{3}{10}$ | $\frac{3}{20}$ | $\frac{3}{20}$ | $\frac{1}{5}$ |
| Number of Rectangles             | <b>10</b>     | <b>15</b>      | <b>7.5</b>     | <b>7.5</b>     | <b>10</b>     |
| Number of Right-Angled Triangles | <b>20</b>     | <b>30</b>      | <b>15</b>      | <b>15</b>      | <b>20</b>     |

# Football-Themed Coordinates **Answers**

Write the coordinates of the football-themed objects. Translate them and write the new coordinate.

| Object                                                                             | Starting Coordinate          | Translation     | Finishing Coordinate         |
|------------------------------------------------------------------------------------|------------------------------|-----------------|------------------------------|
|   | <b><math>(-4, -3)</math></b> | Right 4, Up 6   | <b><math>(0, 3)</math></b>   |
|   | <b><math>(-5, 5)</math></b>  | Right 5, Down 7 | <b><math>(0, -2)</math></b>  |
|   | <b><math>(2, -1)</math></b>  | Left 4, Down 3  | <b><math>(-2, -4)</math></b> |
|   | <b><math>(0, 3)</math></b>   | Left 1, Up 2    | <b><math>(-1, 5)</math></b>  |
|   | <b><math>(0, -4)</math></b>  | Right 3, Down 1 | <b><math>(3, -5)</math></b>  |
|   | <b><math>(4, 2)</math></b>   | Right 1, Up 3   | <b><math>(5, 5)</math></b>   |
|   | <b><math>(5, -3)</math></b>  | Left 8, Up 6    | <b><math>(-3, 3)</math></b>  |
|  | <b><math>(-3, 1)</math></b>  | Left 1, Down 1  | <b><math>(-4, 0)</math></b>  |



# Football-Themed Multiplying Decimals

## Mosaic Answers

Solve the calculations to reveal the hidden picture. Each answer has a special colour.

| blue =<br>answer<br>has 2 tenths | white =<br>answer<br>has 3 tenths | red =<br>answer<br>has 4 tenths | black =<br>answer<br>has 5 tenths | skin colour of<br>your choice =<br>answer has 6 tenths | green =<br>answer<br>has 7 tenths |                 |                 |                 |
|----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|--------------------------------------------------------|-----------------------------------|-----------------|-----------------|-----------------|
| $0.2 \times 6$                   | $1.1 \times 12$                   | $1.2 \times 11$                 | $0.9 \times 8$                    | $0.8 \times 9$                                         | $0.2 \times 3$                    | $0.8 \times 12$ | $1.2 \times 8$  | $0.6 \times 12$ |
| $1.2 \times 6$                   | $0.6 \times 7$                    | $0.7 \times 6$                  | $0.4 \times 8$                    | $0.8 \times 4$                                         | $0.7 \times 8$                    | $0.8 \times 7$  | $0.6 \times 11$ | $0.3 \times 4$  |
| $0.4 \times 3$                   | $1.1 \times 2$                    | $0.2 \times 11$                 | $0.6 \times 2$                    | $0.8 \times 9$                                         | $1.1 \times 6$                    | $0.6 \times 6$  | $0.9 \times 4$  | $0.8 \times 4$  |
| $0.2 \times 6$                   | $1.1 \times 12$                   | $1.2 \times 11$                 | $0.9 \times 8$                    | $0.8 \times 9$                                         | $0.4 \times 9$                    | $0.4 \times 4$  | $0.3 \times 12$ | $0.6 \times 12$ |
| $1.2 \times 11$                  | $0.9 \times 8$                    | $0.8 \times 9$                  | $0.2 \times 2$                    | $1.1 \times 3$                                         | $0.2 \times 7$                    | $0.9 \times 7$  | $0.7 \times 2$  | $0.2 \times 12$ |
| $0.4 \times 3$                   | $1.2 \times 2$                    | $0.3 \times 8$                  | $0.8 \times 3$                    | $0.7 \times 9$                                         | $0.4 \times 6$                    | $0.3 \times 11$ | $0.6 \times 4$  | $0.4 \times 11$ |
| $1.1 \times 4$                   | $0.6 \times 9$                    | $0.9 \times 6$                  | $0.7 \times 12$                   | $1.1 \times 3$                                         | $1.2 \times 7$                    | $0.8 \times 8$  | $0.9 \times 7$  | $1.2 \times 12$ |
| $0.7 \times 2$                   | $0.2 \times 12$                   | $1.2 \times 2$                  | $0.3 \times 8$                    | $0.8 \times 3$                                         | $0.7 \times 9$                    | $0.4 \times 6$  | $0.7 \times 9$  | $1.1 \times 4$  |
| $0.5 \times 3$                   | $1.1 \times 5$                    | $0.5 \times 11$                 | $0.9 \times 5$                    | $0.5 \times 9$                                         | $0.5 \times 7$                    | $0.7 \times 5$  | $0.5 \times 5$  | $0.5 \times 3$  |
| $1.1 \times 5$                   | $0.9 \times 3$                    | $0.9 \times 5$                  | $0.7 \times 11$                   | $0.5 \times 7$                                         | $1.1 \times 7$                    | $0.5 \times 5$  | $0.3 \times 9$  | $0.7 \times 5$  |

**Challenge:** Explain how the following calculations are related:

$$2 \times 7 = 14$$

$$0.02 \times 7 = 0.14$$

$$2 \times 0.7 = 1.4$$

Accept answers that explain how the calculations are related facts to different powers of ten.

# Football-Themed Multiples and Prime Numbers Mosaic **Answers**

Solve the calculations to reveal the hidden picture. Each answer has a special colour.

blue =  
multiples of 4

green =  
multiples of 7

yellow =  
prime numbers

black =  
multiples of 9

|    |     |     |    |    |    |    |    |    |
|----|-----|-----|----|----|----|----|----|----|
| 4  | 100 | 96  | 2  | 41 | 67 | 88 | 60 | 16 |
| 92 | 19  | 47  | 29 | 37 | 71 | 59 | 3  | 32 |
| 79 | 20  | 31  | 17 | 19 | 61 | 73 | 40 | 13 |
| 5  | 44  | 53  | 97 | 43 | 11 | 83 | 24 | 89 |
| 16 | 23  | 13  | 47 | 29 | 37 | 71 | 59 | 52 |
| 80 | 68  | 104 | 17 | 19 | 61 | 60 | 64 | 8  |
| 4  | 100 | 96  | 20 | 2  | 88 | 60 | 16 | 52 |
| 21 | 91  | 91  | 77 | 67 | 70 | 14 | 42 | 35 |
| 35 | 21  | 14  | 19 | 61 | 73 | 35 | 14 | 91 |
| 91 | 77  | 81  | 18 | 45 | 90 | 54 | 21 | 14 |

**Challenge:** Find all of the two-digit numbers that are multiples of 4 and 9.

**36 and 72**