Your Turn

1. Write down all the factors of:

   a. 20

   1 and 20, 2 and 10, 4 and 5

   b. 32

   1 and 32, 2 and 16, 4 and 8

   c. 25

   1 and 25, 5

   d. 49

   1 and 49, 7

   e. 80

   1 and 80, 2 and 40, 4 and 20, 5 and 16, 8 and 10

   Challenge: Compare the number of factors that 20, 32 and 80 have with the number of factors 25 and 49 have. What do you notice?

   25 and 49 are square numbers. They have an odd number of factors, whereas the other numbers have an even number of factors.

2. List the first four multiples of:

   a. 3

   3, 6, 9, 12

   b. 7

   7, 14, 21, 28

   c. 10

   10, 20, 30, 40

   d. 12

   12, 24, 36, 48

   Challenge: Use your lists to find the lowest common multiple of 3 and 12.

   The smallest number in both lists is 12 so the lowest common multiple is 12.

3. Which of these numbers is not a prime number?

   2, 9, 41

   9 is not a prime number since it has 3 factors: 1, 3 and 9.

   Challenge: The number 22 has two prime factors. What are they?

   The factors of 22 are 1 and 22, 2 and 11.

   2 and 11 are prime numbers so these are the prime factors of 22.

4. Evaluate:

   a. 3 squared

   $3 \times 3 = 9$

   b. 2 cubed

   $2 \times 2 \times 2 = 8$

   c. 10 squared

   $10 \times 10 = 100$

   d. $\sqrt{25}$

   $5^2 = 25$ so the answer is 5.

   e. $\sqrt{81}$

   $9^2 = 81$ so the answer is 9.

   f. $\sqrt[3]{27}$

   $3^3 = 27$ so the answer is 3.

   Challenge: Which of the following is both a square number and a cube number?

   4, 8, 64, 100

   $8^2 = 64$ and $4^3 = 64$ so the answer is 64.

5. Write down the reciprocal of:

   a. 7

   $\frac{1}{7}$

   b. 9

   $\frac{1}{9}$

   c. 11

   $\frac{1}{11}$

   d. $\frac{3}{4}$

   $\frac{4}{3}$ or $1\frac{1}{3}$

   e. $\frac{5}{8}$

   $\frac{8}{5}$ or $1\frac{3}{5}$

   Challenge: Find the reciprocal of:

   a. 0.3

   b. $1\frac{2}{3}$

   (Hint: write 0.3 as a fraction and write $1\frac{2}{3}$ as an improper fraction).

   a. 0.3 as a fraction is $\frac{3}{10}$. Its reciprocal is $\frac{10}{3}$(or $3\frac{1}{3}$).

   b. $1\frac{2}{3}$ as an improper fraction is $\frac{5}{3}$. Its reciprocal is $\frac{3}{5}$.