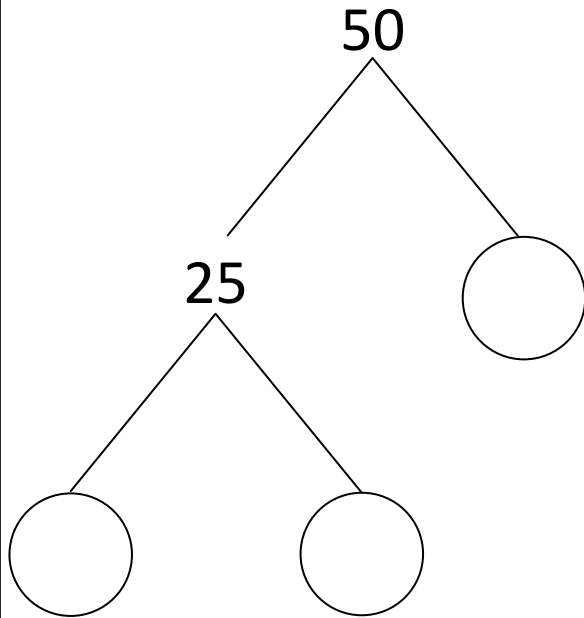
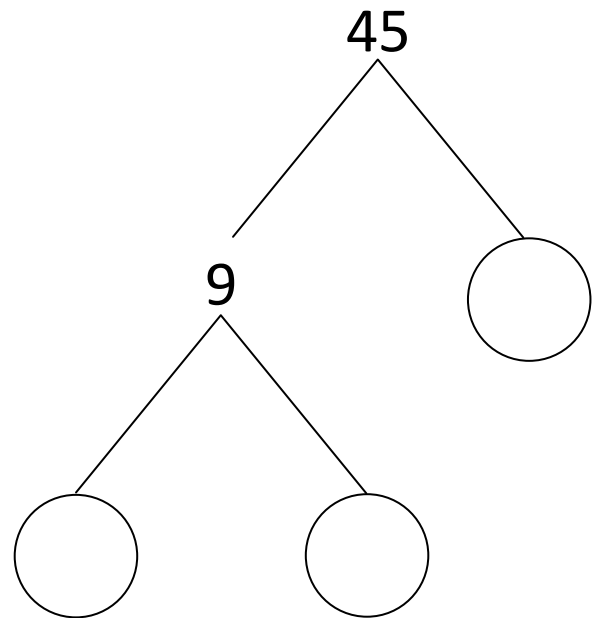


Writing a Number as a Product of Prime Factors

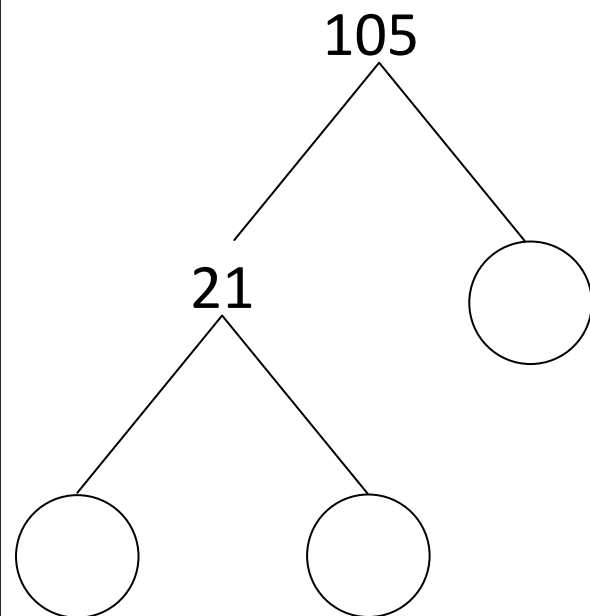
1. Complete the factor trees below and use them to write each number as the product of its prime factors. Give your final answers in index form where appropriate.



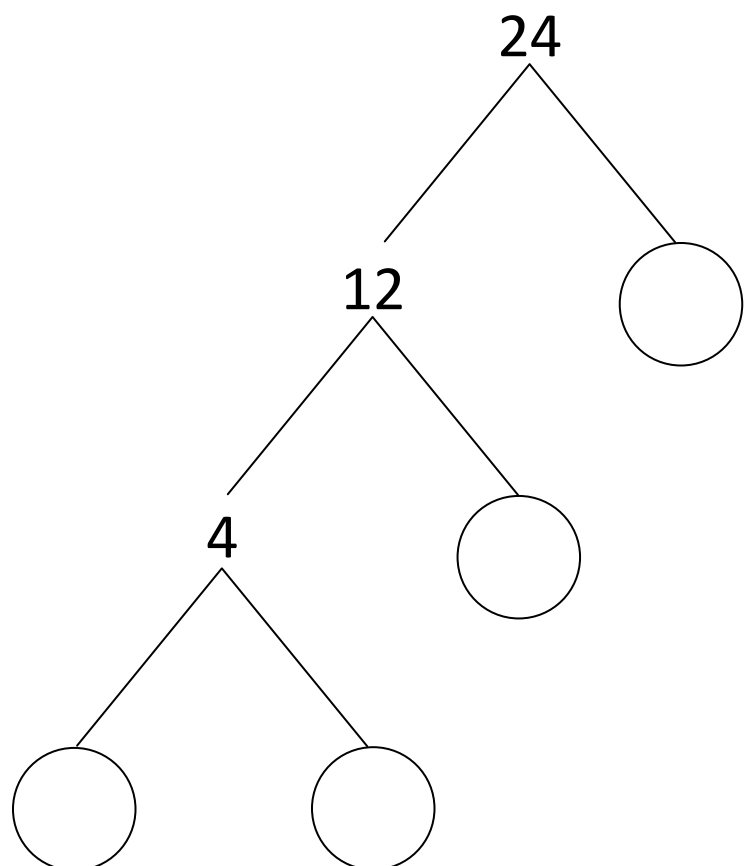
50 = _____



45 = _____



105 = _____

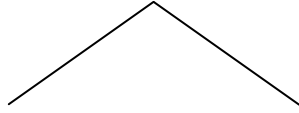


24 = _____

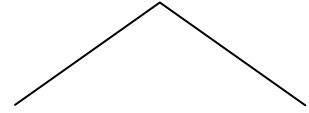
Writing a Number as a Product of Prime Factors

2. Use factor trees to write each number as the product of its prime numbers. Give your final answers in index form where appropriate.

98



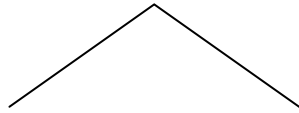
100



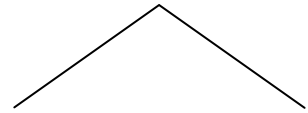
98 =

100 =

240



625



240 =

625 =

3. Write each of the following numbers as the product of its prime factors, giving your answers in index form where appropriate.

a. 30 =

b. 66 =

c. 132 =

d. 1000 =

e. 225 =

f. 156 =

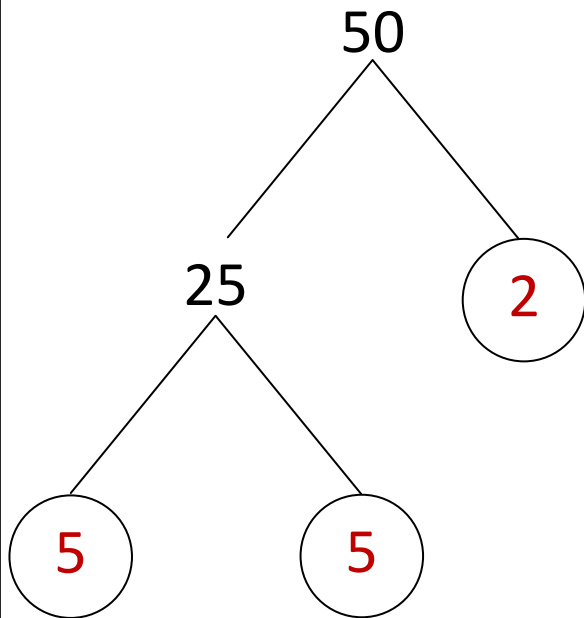
g. 900 =

h. 784 =

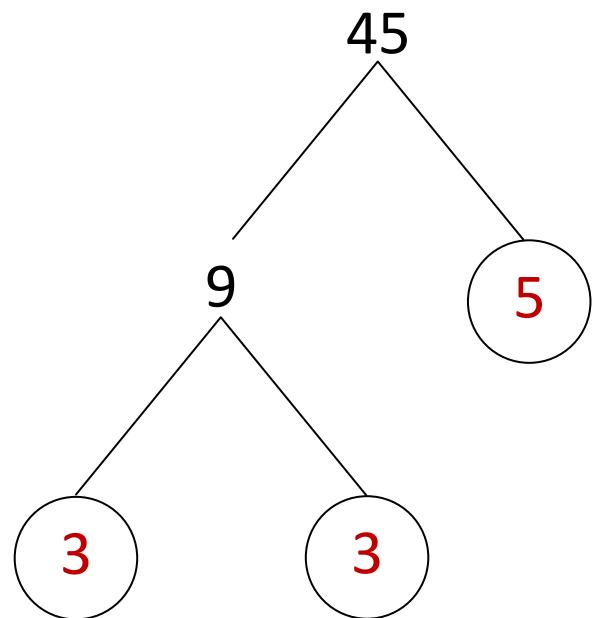
4. Which of the numbers from q3 are square numbers? Use your prime factorisation to justify your answer.

Writing a Number as a Product of Prime Factors - Answers

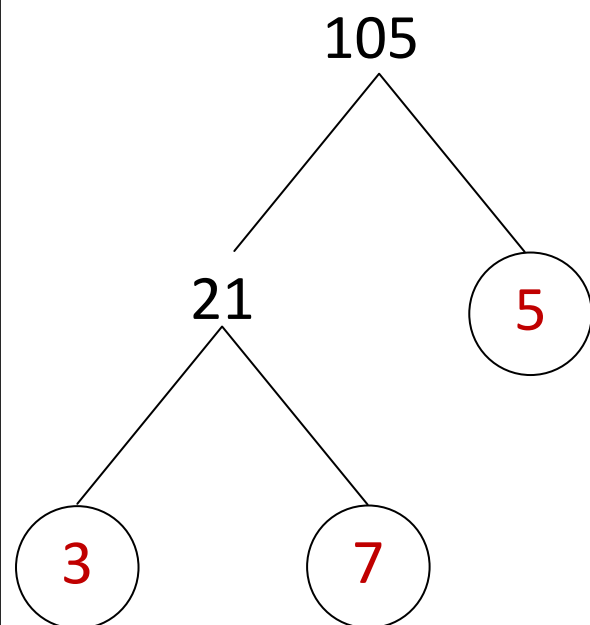
1. Complete the factor trees below and use them to write each number as the product of its prime factors. Give your final answers in index form where appropriate.



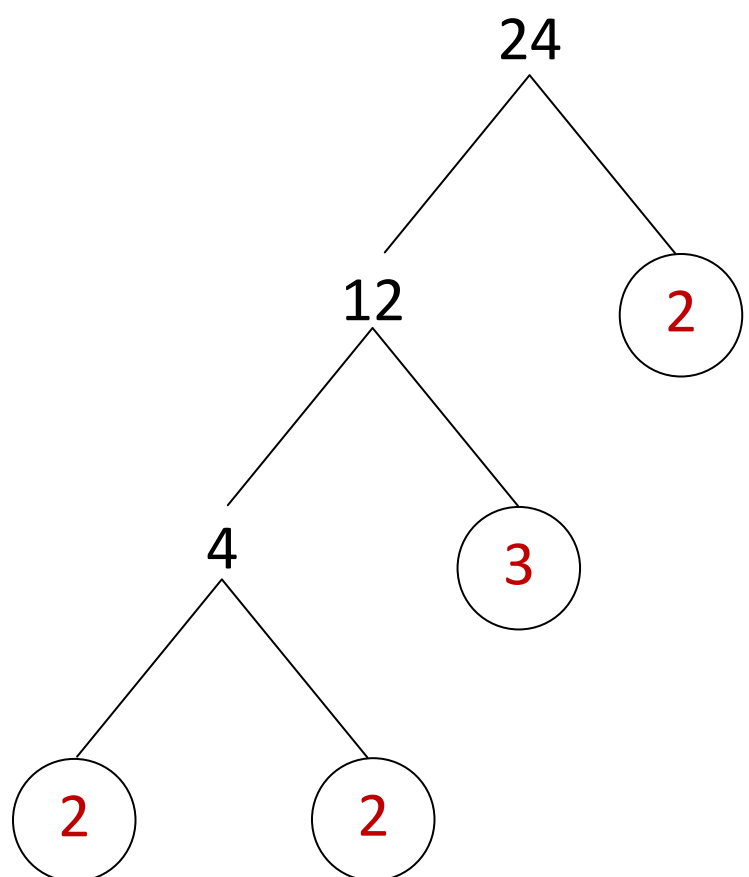
$$50 = 2 \times 5^2$$



$$45 = 3^2 \times 5$$



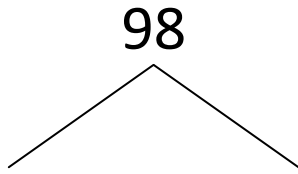
$$105 = 3 \times 5 \times 7$$



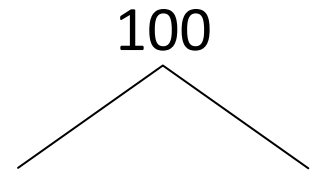
$$24 = 2^3 \times 3$$

Writing a Number as a Product of Prime Factors

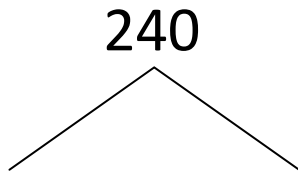
2. Use factor trees to write each number as the product of its prime numbers. Give your final answers in index form where appropriate.



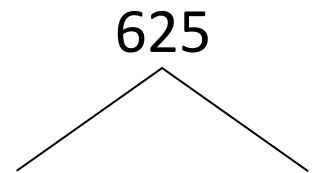
$$98 = 2 \times 7^2$$



$$100 = 2^2 \times 5^2$$



$$240 = 2^4 \times 3 \times 5$$



$$625 = 5^4$$

3. Write each of the following numbers as the product of its prime factors, giving your answers in index form where appropriate.

a. $30 = 2 \times 3 \times 5$

b. $66 = 2 \times 3 \times 11$

c. $132 = 2^2 \times 3 \times 11$

d. $1000 = 2^3 \times 5^3$

e. $225 = 3^2 \times 5^2$

f. $156 = 2 \times 3 \times 13$

g. $900 = 2^2 \times 3^2 \times 5^2$

h. $784 = 2^4 \times 7^2$

4. Which of the numbers from q3 are square numbers? Use your prime factorisation to justify your answer. **225, 900 and 784** as all of their factors are

raised to even powers.