

## Outcome 2 - Prime Decomposition

### Bronze examples

Examples... \*\*Draw a factor tree!\*\*

Express 10 as a product of prime factors.

```

      10
     /  \
    2    5
  
```

$10 = 2 \times 5$

Express 33 as a product of prime factors.

```

      33
     /  \
    3   11
  
```

$33 = 3 \times 11$

### Silver examples

Examples... \*\*Draw a factor tree!\*\*

Express 63 as a product of prime factors.

```

      63
     /  \
    3   21
       /  \
      3   7
  
```

$63 = 3 \times 3 \times 7$

### Gold examples

Examples... \*\*Draw a factor tree!\*\*

Express 54 as a product of prime factors.

```

      54
     /  \
    2   27
       /  \
      3   9
         /  \
        3   3
  
```

$54 = 2 \times 3 \times 3 \times 3$

### Bronze Questions

Express each of the following as a product of prime factors...

|                                                                                     |    |                                                                                     |    |
|-------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------|----|
|   | 9  |   | 49 |
|  | 69 |  | 86 |
|  | 95 |  | 91 |
|  | 87 |  | 25 |
|  | 35 |  | 38 |

### Silver Questions

Express each of the following as a product of prime factors...

|                                                                                     |     |                                                                                       |     |
|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
|   | 50  |   | 30  |
|  | 76  |  | 105 |
|  | 165 |  | 99  |
|  | 175 |  | 116 |
|  | 92  |  | 70  |

### Gold Questions

Express each of the following as a product of prime factors...

|                                                                                     |     |                                                                                     |     |
|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|
|  | 36  |  | 56  |
|  | 84  |  | 104 |
|  | 132 |  | 150 |
|  | 220 |  | 200 |
|  | 315 |  | 184 |

## Bronze Answers

- |                  |                   |
|------------------|-------------------|
| 1. $3 \times 3$  | 2. $7 \times 7$   |
| 3. $3 \times 23$ | 4. $2 \times 43$  |
| 5. $5 \times 19$ | 6. $7 \times 13$  |
| 7. $3 \times 29$ | 8. $5 \times 5$   |
| 9. $5 \times 7$  | 10. $2 \times 19$ |

## Silver Answers

- |                           |                           |
|---------------------------|---------------------------|
| 1. $2 \times 5 \times 5$  | 2. $2 \times 3 \times 5$  |
| 3. $2 \times 2 \times 19$ | 4. $3 \times 5 \times 7$  |
| 5. $3 \times 5 \times 11$ | 6. $3 \times 3 \times 11$ |
| 7. $5 \times 5 \times 7$  | 8. $2 \times 2 \times 29$ |
| 9. $2 \times 2 \times 23$ | 10. $2 \times 5 \times 7$ |

## Gold Answers

- |                                    |                                            |
|------------------------------------|--------------------------------------------|
| 1. $2 \times 2 \times 3 \times 3$  | 2. $2 \times 2 \times 2 \times 7$          |
| 3. $2 \times 2 \times 3 \times 7$  | 4. $2 \times 2 \times 2 \times 13$         |
| 5. $2 \times 2 \times 3 \times 11$ | 6. $2 \times 3 \times 5 \times 5$          |
| 7. $2 \times 2 \times 5 \times 11$ | 8. $2 \times 2 \times 2 \times 5 \times 5$ |
| 9. $3 \times 3 \times 5 \times 7$  | 10. $2 \times 2 \times 2 \times 23$        |