

**GRADE 8 MATHEMATICS CYCLE TEST**

**TERM 1: MEMORANDUM**

**TIME: 1 HOUR MARKS: 70**

**Question 3 [7 Marks]**

(a) List the set of all the factors of 16 (1)

**( 1,2,4,8,16)√**

(b) Which number is both a factor and a multiple of 15? (1)

**( 15 ) √**

(c) Which of the following: 36, 18, 6, 3 and 8

i) are factors of 12? (1)

**( 3,6) √**

ii) is a multiple of 12? (1)

**( 36 ) √**

(d) List all the factors of 24 which are prime numbers (1)

**( 2 , 3 ) √**

(e) List the four lowest multiples of 60 (1)

**( 60 , 120 ,180, 240 ) √**

(f) List the factors of 60 which are perfect squares (1)

**( 4 ) √**

**Question 4 [6 Marks]**

Complete the tables below as instructed.

|  |  |  |
| --- | --- | --- |
| **Write as a common fraction in its simplest form** | **Write as a decimal fraction** | **Write as a percentage** |
| 2  3 | a) **0,67√** | b) **67%√** |
| c) **√** | 0,48 | d) **48%√** |
| e)**√** | f)**0,55√** | 55% |

**Question 5 [4 Marks]**

(a) In a class of 15 people, 20% are boys. How many girls are there? (2)

**20% of 15**

**=**

**= 3 are boys √**

**Therefore 15 – 3 = 12 girls√**

(b) A store has increased the price of a book by 15%. It now costs R199.50. What was the original price of the book?

**√**

**= R1330√**

(2)

**Question 6 [8 Marks]**

Calculate the following

(a) ()2 – ()2  (1)

**= 25 – 4**

**= 21√**

(b) +  (1)

**= 3 + 11**

**= 14 √**

(c)  (1)

**= 4√**

(d)  (1)

**=**

**= 6√**

(e) 

**= 0,2**  **√** (1)

(f) 1002 x  (1)

**= 10 000 x 10**

**= 100 000√**

(g)  + + 52 (1)

**= 5 + 5 + 25**

**= 35√**

(h)  (1)

**=**

**=**

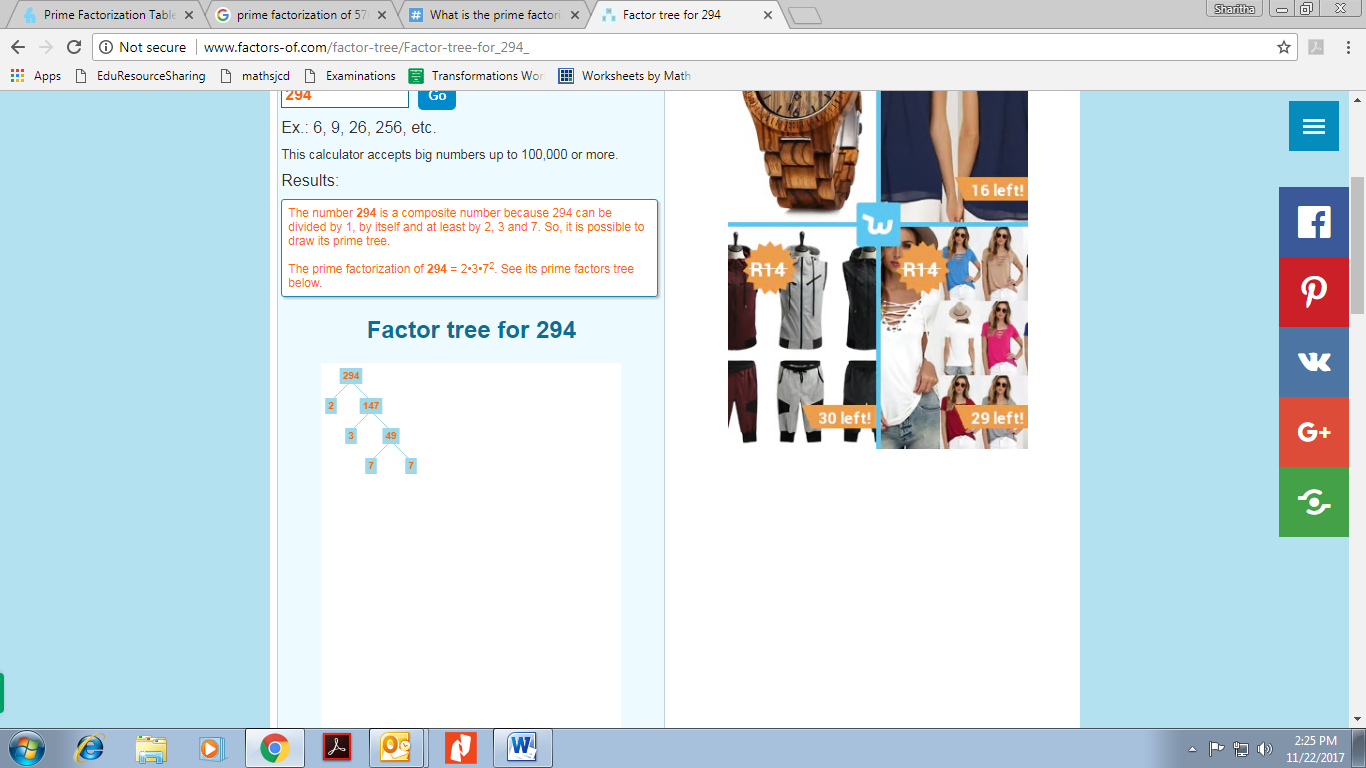
**= √**

**Question 7 [4 Marks]**

Use the ladder method or tree method to express the following numbers as products of their prime factors.

1. 294

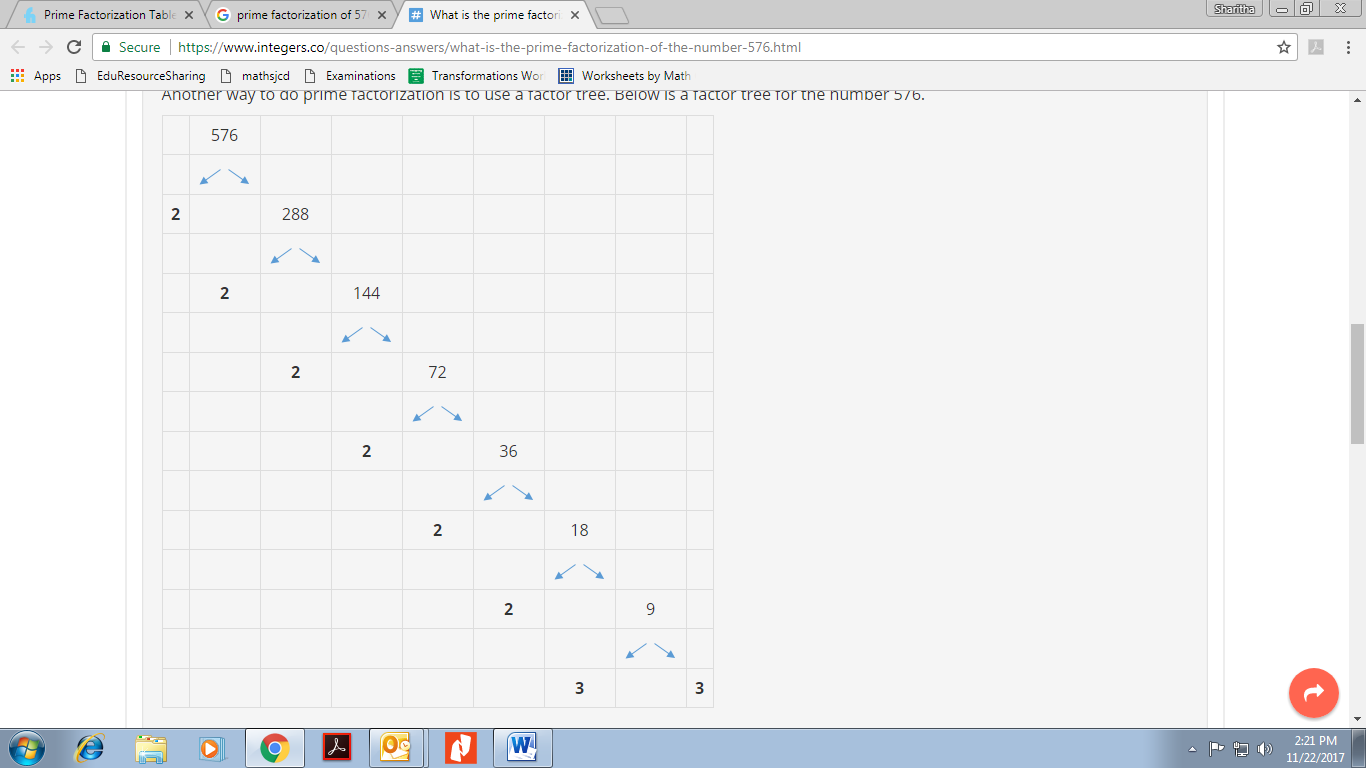
|  |  |
| --- | --- |
| **2** | **294** |
| **3** | **147** |
| **7** | **49** |
| **7** | **7** |
|  | **1** |

or

**2 x 3 x 72**

1. 576

|  |  |
| --- | --- |
| **2** | **576** |
| **2** | **288** |
| **2** | **144** |
| **2** | **72** |
| **2** | **36** |
| **2** | **18** |
| **3** | **9** |
| **3** | **3** |
|  | **1** |

 or

**26 x 32**

**Question 8 [8 marks]**

Fill in a number in the box to make the number sentence true.

(a) 8 – **22** = – 14 **√** (b) 6 + **-9** = – 3 **√**

(c) 5 – **-11** = 6 **√** (d) 6 –  **4** = 2**√**

(e) 6 ÷ **-12** = –  **√** (f) – 3 – **-7** = 4**√**

(g) – 4 + **-6** = – 10 **√** (h) 6×0 – **-3** = 3**√**

**Question 9 [12 marks]**

Fill in the answers without the use of a calculator (show working where necessary)

1. 5 – (28 ÷ 7) + (– 3)

**= 5 – 4 -3√**

**= - 2 √**

(b) 

**√**

**= 4√**

1. 5 – 3(4 – 2) + (– 6)

**= 5 -3.2 - 6**

**= 5 – 6 – 6 √**

**= -7** **√**

1. 18 ÷ – 6 + 3 ÷ – 1

**= -3 + ( -3)** **√**

= -6 **√**

1. – 11 + 3 × 2 – 6

= **-11 + 6 - 6 √**

**= -11√**

(f) 3 – (– 2)2 + 2 × – 7 – 4

= **3 – 4 – 14 -4 √**

**= 3 – 22**

**= - 19 √**