

2 Homework and class practice questions for the test

Name_____

1. Definitions

- (a) What is the definition of a **factor**?
- (b) What is the definition of a **prime number**?

2. In each set of Whole Numbers, circle the prime numbers.
(if 2,3,5 and 7 don't divide into them then they will be prime).

- (a) {10, 3, 21, 17, 15, 11, 16, 4, 2, 23}
- (b) {65, 66, 67, 68, 69, 70, 71, 72, 73, 74}

3. Make factor trees for the following numbers and write each number as a product of its prime factors.

- (a) 100
- (b) 120
- (c) 164

4. Find the **Highest Common Factor** for the following pairs of numbers

- (a) 80, 52
- (b) 96, 36

5. Find the **Lowest Common Multiple** for the following pairs of numbers

- (a) 12, 26
- (b) 18, 33

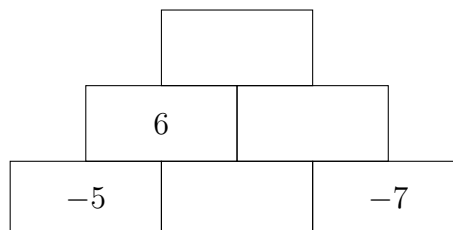
6. Write factor lists for:

- (a) 144
- (b) 120

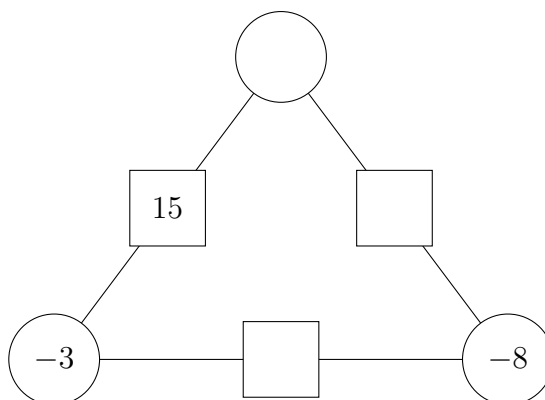
7. Calculate the following

- (a) $-17 - 20 =$
- (c) $-14 + (-3) =$
- (e) $15 \div (-3) =$
- (b) $-2 - (-14) =$
- (d) $-17 \times (-3) =$
- (f) $4 \times (-8) =$

8. The two bricks below add to the brick above. Fill in the missing bricks:



9. The numbers in the circles **multiply** to give the number in the squares between them.
Fill in the missing spaces:



10. (Difficult) Calculate the following

(a) $4^2 \div 2 =$	(c) $-2 \times (5 + -9) =$	(e) $(-2 + 5) \times \sqrt{36} =$
(b) $-3 \times -4 \div (5 + 1) =$	(d) $(2^5 + 2) \times 3 =$	(f) $4^4 \times 0.5 + \sqrt{121} =$

11. Write the following Decimals as Fractions

(a) 0.46	(b) 0.968	(c) $0.\dot{4}$	(d) $0.\dot{8}$
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12. Write the following as fractions:

(a) $\left(\frac{1}{2}\right)^5$	(b) $\left(\frac{1}{3}\right)^2$	(c) 5^{-3}	(d) 10^{-2}
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13. Simplify:

(a) $\sqrt{2} \times \sqrt{3}$	(b) $\sqrt{5} \times \sqrt{6}$
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14. Calculate:

(a) $\sqrt{36}$	(b) $\sqrt{64}$	(c) $\sqrt{81}$	(d) $\sqrt{121}$
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