

Elementary Math Olympiad Exercises 2.2 answers

1. 15 days
2. 144
3. 11
4. 13
5. Friday
6. 32
7. 4
8. 48
9. $\frac{1}{10}$ mile or 528 ft
10. 45
11. 16
12. 440
13. 720
14. 8 oz
15. 10:20 am
16. 6
17. $A = 1$, $B = 13$
18. 58
19. 11
20. 18

(SingaporeMath) Grade 5 homework

Answers to Factors and Multiples worksheet (pp 17-18)

1. 4 is not a factor of 110.
2. Factors of 84 are 1,2,3,4,6,7,12,14,21,28,42,84
3. Factors of:
 - a. 36 are 1,2,3,4,6,9,12,18,36
 - b. 64 are 1,2,4,8,16,32,64
 - c. 124 are 1,2,4,31,62,124
 - d. 144 are 1,2,3,4,6,8,9,12,16,18,24,36,48,72,144
4. Yes
5. GCF of 12 and 20 is 4
6. 5,10,15,20,25,30,35,40,45,50,55,60
7. Yes
8. 40(LCM)
9. 36 (LCM)

Answers to Exercise 4 (page 12)

- 1a) the factors of 48 are 1,2,3,4,6,8,12,16,24,48
- 1b) the factors of 72 are 1,2,3,4,6,8,9,12,18,24,36,72
- 1c) the factors of 128 are 1,2,4,8,16,32,64,128
- 1d) the factors of 150 are 1,2,3,5,6,10,15,25,30,50,75,150
- 2a) 30
- 2b) 40
- 2c) 72
- 2d) 28(least common multiple)

Prime Factorization (p. 19)

Twin primes less than 50: (3,5), (5,7), (11,13), (17,19), (29,31), (41, 43)

(p. 20)

1. 2 & 3 are prime factors
2. $12 = 2 \times 2 \times 3$
4.
 - a. $15 = 3 \times 5$
 - b. $50 = 2 \times 5 \times 5$
 - c. $36 = 2 \times 2 \times 3 \times 3$
6.
 - a. 16
 - b. 64
7.
 - a. 27
 - b. 49
 - c. 1323
 - d. 1
8.
 - a. 23×53
 - b. $32 \times 52 \times 7$
 - c. 72×112
9.
 - a. $22 \times 3 \times 5$
 - b. 23×3
 - c. 22×52

Answers to Exercise 5 (page 14)

1. 2,3,5,7,11,13,17,19,23,29,31,37,41,43,47
2. 51,53,59
- 3a. $5 \times 2 \times 2$
- 3b. $2 \times 3 \times 3 \times 3$
- 3c. $5 \times 3 \times 3 \times 2$
- 3d. $2 \times 7 \times 2 \times 3$
- 4a. >
- 4b. =
- 4c. =
- 4d. <
- 4e. <
- 4f. =
- 4g. <
- 4h. =
- 5a. $22 \times 3 \times 5$
- 5b. $72 \times 112 \times 2$
- 5c. 33×2
- 5d. $72 \times 32 \times 2$
- 6a. $48 = 2 \times 2 \times 2 \times 2 \times 3$
- 6b. $49 = 7 \times 7$
- 6c. $50 = 2 \times 5 \times 5$

Answers to Practice B (Page 22)

Use the divisibility rules--

- 1a) the factors of 56 are 1,2,4,16,28,56
- 1b) the factors of 72 are 1,2,3,4,6,8,9,12,18,24,36,72
- 1c) the factors of 108 are 1,2,3,4,6,9,12,18,27,36,54,108
- 1d) the factors of 120 are 1,2,3,4,5,6,8,10,12,15,20,24,30,40,60,120
- 2a) the GCF of 12 and 72 is 12
- 2b) the GCF of 18 and 57 is 3
- 2c) the GCF of 48 and 84 is 12

Use the multiplication table—

- 3a) 5,10,15,20
- 3b) 7,14,21,28
- 3c) 8,16,24,32
- 3d) 9,18,27,36
- 4a) 15
- 4b) 24
- 4c) 36
- 5a) 14
- 5b) 24
- 5c) 33
- 5d) 15
- 5e) 29
- 5f) 22

Use the divisibility rules—

- 6) a,c
- 7) b,c
- 8) a,c,d

- 9a) 52×113
- 9b) $23 \times 132 \times 31$
- 9c) $2 \times 32 \times 52 \times 192$
- 10a) $16 \times 27 = 432$
- 10b) $4 \times 49 = 196$
- 10c) $121 \times 9 = 1089$

Use prime factorization:

- 11a) $28 = 2 \times 2 \times 7$
- 11b) $54 = 2 \times 3 \times 3 \times 3$
- 11c) $88 = 2 \times 2 \times 2 \times 11$
- 11d) $108 = 2 \times 2 \times 3 \times 3 \times 3$