

## 2.6 Exercises

Factor to primes. If a number is prime, say so.

\*answer is attached

- 1.\* 6
2. 10
3. 31
4. 45
- 5.\* 55
6. 63
7. 117
8. 126
9. 148
10. 153
- 11.\* 210
12. 333
13. 335
14. 336
- 15.\* 410
16. 516
17. 555
18. 610
- 19.\* 825
20. 1,000
21. 2,016
22. 3,255
23. 4,410
24. 9,900
- 25.\* 21,780
26. 28,224
27. 68,400
28. 100,101
- 29.\* 121,000
30. 137,000

Simplify by cancelling common factors. Report your answer in simplest terms and in as many forms as you can think of.

$$31. \quad \frac{286}{6292}$$

$$32. \quad \frac{420}{1260}$$

$$33.* \quad \frac{4725}{42525}$$

$$34. \quad \frac{3300}{10890}$$

$$35. \quad \frac{2016}{90720}$$

$$36. \quad \frac{315}{2695}$$

$$37.* \quad \frac{6048}{28224}$$

$$38. \quad \frac{2^{-2} \cdot 16 \cdot 25}{200}$$

$$39.* \quad \frac{4 \cdot 50^{-1}}{5^{-3}(100)}$$

$$40. \quad \frac{40(2^{-3})}{3^{-2}(5^3)(5^{-2})}$$

Answers to selected exercises:

1.  $6 = 2(3)$

5.  $55 = 5(11)$

11.  $210 = 2(3)(5)(7)$

15.  $410 = 2(5)(41)$

19.  $825 = 3(5^2)(11)$

25.  $21,780 = (2^2)(3^2)(5)(11^2)$

29.  $121,000 = (2^3)(5^3)(11^2)$

33.  $\frac{4725}{42525} = \frac{5^2 \cdot 7 \cdot 3^3}{5^2 \cdot 3^5 \cdot 7} = 3^{-2} = \frac{1}{9} = 9^{-1} = \bar{1} \approx 1.11 \times 10^{-1}$

37.  $\frac{6048}{28224} = \frac{2^5 \cdot 3^3 \cdot 7}{2^6 \cdot 3^2 \cdot 7^2} = \frac{3}{2 \cdot 7} = \frac{3}{14} = 3(14^{-1}) = \overline{.2142857} \approx 2.14 \times 10^{-1}$

39.  $\frac{4 \cdot 50^{-1}}{5^{-3}(100)} = \frac{4(5^3)}{50(100)} = \frac{4(5)25}{5(2)(4 \cdot 25)} = \frac{1}{2} = 2^{-1} = .5 = 5.0 \times 10^{-1}$