

Arithmetic - Expressions - Answers

General expressions - Ex5

The examples below are intended to be used as exercises in mental arithmetic and the student should *not* make use of a calculator or other aid. Some of these examples involve the use of parentheses which may control evaluation order.

1. $2346 / (53 - 37 \times 2^1) = -111$

11. $((4108 \times (9^2 - 7^2) - 2^{17}) \times 3) / 2^7 = 9$

2. $3972 / (13^2 - 5^2)^{1/2} = 331$

12. $(6593 / 19 + 23^2) \times 12^{-1} + 2^2 / 7 = 11$

3. $4025 / ((17^2 - 3 \times 13) / 10) = 365$

13. $(6593 / 19 + 31^2) / (10^2 + 3^2) = 12$

4. $(9177 / (12^2 - 11^2 - 2^2) - 42)^{1/2} = 21$

14. $((1127 \times 15^{(2^2-2)} - 2^{18}) + 1) / 29 = 295$

5. $((17^2 - 15^2)^{1/3} \times (19^2 - 17^2) / 2)^{1/2} = 12$

15. $3154 / (9^4 + 7^3 - 45)^{1/3} = 166$

6. $((((23^2 - 21^2) / 11)^{1/3} \times (27^2 - 25^2) + 17)^{1/2} = 22$

16. $(597 \times 11^2 - 2^{16}) / (9^4 + 12^2 - 2^2) = 1$

7. $(11^2 + 13^2) \times (17^2 + 19^2 - 5^2)^{1/2} / 29 = 50$

17. $((13^3 + 15^3 + 17^3) - 10^4) / 5 = 97$

8. $((29^2 - 23^2) / 13 \times (31 - 2 \times 11))^{1/3} = 6$

18. $(81^{9/4} - 125^2 - 16^3) \bmod 20 = 2$

9. $((31^2 + 37^2) \times 10^{-1} + 12^2 + 12^1) \bmod (9^2 - 7^2) = 5$

19. $(8! - 7! - 16^{5/4}) / 16 = 2203$

10. $(43^2 - 41^2) / 42 \times (43^2 + 41^2 - 2) / 42 = 336$

20. $(9! / 7! \times 2)^{1/2} = 12$