

## HOLIDAY ALGEBRA

Many Christmas songs have lyrics in which a word or phrase is repeated. We've extracted some repetitive lyrics from a number of holiday favorites, then abbreviated them into the expressions below. Each word is represented by its first letter, and exponents have been added to show the number of repetitions. If two or more words are repeated as a group, they appear in parentheses. For example,  $(JB)^2$  is short for "Jingle bells, jingle bells." How many of the songs can you identify?

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|----------------|------------------------|--------------------|----------------------|
| 1. $(JB)^3R$   | 7. $(WWYAMC)^3$        | 13. $(LIS)^3$      | 19. $(HCSC)^2$       |
| 2. $P(RP^3)^3$ | 8. $(OCT)^2$           | 14. $(M4C)^2$      | 20. $(RTSJ)^2R^2TSJ$ |
| 3. $FL^8$      | 9. $OTO(CAJ)^2OTOC AJ$ | 15. $(OCD)^2$      | 21. $(OC)^2E$        |
| 4. $(SIHP)^2$  | 10. $(OCLUAH)^3$       | 16. $(FN)^3$       | 22. $G^3LG$          |
| 5. $N^4$       | 11. $(GIED)^2$         | 17. $(SB)^2$       |                      |
| 6. $H^2TBHL$   | 12. $(H^3WWG)^2$       | 18. $(MBS)^2MBS2C$ |                      |