

Name: _____

Date: _____

WORKSHEET ON MATCHING BINOMIAL EXPANSION

Match the binomials to their expanded form.

- | | |
|---------------------|--|
| ① $(a + 3b)^6$ | i) $16807a^5 + 24010a^4b^2 + 13720a^3b^4 + 3920a^2b^6 + 560ab^8 + 32b^{10}$ |
| ② $(2a - 9)^4$ | ii) $8a^3 + 36a^2b + 54ab^2 + 27b^3$ |
| ③ $(7a + 2b^2)^5$ | iii) $a^6 + 18a^5b + 135a^4b^2 + 540a^3b^3 + 1215a^2b^4 + 1458ab^5 + 729b^6$ |
| ④ $(2 + b)^6$ | iv) $64 + 192b + 240b^2 + 160b^3 + 60b^4 + 12b^5 + b^6$ |
| ⑤ $(a^2 - 5b)^3$ | v) $16a^4 - 288a^3 + 1944a^2 - 5832a + 6561$ |
| ⑥ $(2a + 3b)^3$ | vi) $b^4 - 12b^3a + 54b^2a^2 - 108ba^3 + 81a^4$ |
| ⑦ $(2b^2 + 3a^4)^4$ | vii) $a^6 - 15a^4b + 75a^2b^2 - 125b^3$ |
| ⑧ $(1 + a)^7$ | viii) $a^7 - 7a^6 + 21a^5 - 35a^4 + 35a^3 - 21a^2 + 7a - 1$ |
| ⑨ $(b - 3a)^4$ | ix) $16b^8 + 96b^6a^4 + 216b^4a^8 + 216b^2a^{12} + 81a^{16}$ |
| ⑩ $(a - 1)^7$ | x) $1 + 7a + 21a^2 + 35a^3 + 35a^4 + 21a^5 + 7a^6 + a^7$ |
| ⑪ $(a^2 + 4b)^5$ | xi) $a^5 - 15a^4 + 90a^3 - 270a^2 + 405a - 243$ |
| ⑫ $(2a - 3)^6$ | xii) $a^8 - 8a^6b + 24a^4b^2 - 32a^2b^3 + 16b^4$ |
| ⑬ $(a^2 - 13)^3$ | xiii) $a^{10} + 20a^8b + 160a^6b^2 + 640a^4b^3 + 1280a^2b^4 + 1024b^5$ |
| ⑭ $(a^2 - 2b)^4$ | xiv) $64a^6 - 576a^5 + 2160a^4 - 4320a^3 + 4860a^2 - 2916a + 729$ |
| ⑮ $(a - 3)^5$ | xv) $a^6 + 39a^4 + 507a^2 - 2197$ |

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Answers

- ① $(a + 3b)^6$ → i) $16807a^5 + 24010a^4b^2 + 13720a^3b^4 + 3920a^2b^6 + 560ab^8 + 32b^{10}$
- ② $(2a - 9)^4$ → ii) $8a^3 + 36a^2b + 54ab^2 + 27b^3$
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- ④ $(2 + b)^6$ → iv) $64 + 192b + 240b^2 + 160b^3 + 60b^4 + 12b^5 + b^6$
- ⑤ $(a^2 - 5b)^3$ → v) $16a^4 - 288a^3 + 1944a^2 - 5832a + 6561$
- ⑥ $(2a + 3b)^3$ → vi) $b^4 - 12b^3a + 54b^2a^2 - 108ba^3 + 81a^4$
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- ⑨ $(b - 3a)^4$ → ix) $16b^8 + 96b^6a^4 + 216b^4a^8 + 216b^2a^{12} + 81a^{16}$
- ⑩ $(a - 1)^7$ → x) $1 + 7a + 21a^2 + 35a^3 + 35a^4 + 21a^5 + 7a^6 + a^7$
- ⑪ $(a^2 + 4b)^5$ → xi) $a^5 - 15a^4 + 90a^3 - 270a^2 + 405a - 243$
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- ⑮ $(a - 3)^5$ → xv) $a^6 + 39a^4 + 507a^2 - 2197$