

Name Schlansky
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1	.0
i	.25
-1	.50
-i	.75

type into calculator

*If the power is more than 100, drop the hundreds.

Date _____
Algebra II

Power of i

Evaluate each of the following:

1. i^{11}

$$\frac{11}{4} = 2.75$$

$$-i$$

2. i^{33}

$$\frac{33}{4} = 8.25$$

$$i$$

3. i^{74}

$$\frac{74}{4} = 18.5$$

$$-1$$

4. i^{92}

$$\frac{92}{4} = 23$$

$$1$$

5. i^{115}

$$\frac{115}{4} = 28.75$$

$$-i$$

6. i^{341}

$$\frac{341}{4} = 85.25$$

$$i$$

7. i^{708}

$$\frac{708}{4} = 177$$

$$1$$

8. i^{214}

$$\frac{214}{4} = 53.5$$

$$-1$$

9. $2i^{38}$

$$\frac{38}{4} = 9.5$$

$$2(-1) = -2$$

10. $-4i^{28}$

$$\frac{28}{4} = 7$$

$$-4(1) = -4$$

11. $-6i^{103}$

$$\frac{103}{4} = 25.75$$

$$-6(-i) = 6i$$

12. $7i^{207}$

$$\frac{207}{4} = 51.75$$

$$7(-i) = -7i$$

13. $2i^{19} + 3i^{24}$

$$\frac{19}{4} = 4.75$$

$$2(-i) + 3(1)$$

$$3 - 2i$$

$$\frac{24}{4} = 6$$

14. $5i^{97} - 6i^{23}$

$$\frac{97}{4} = 24.25$$

$$5(i) - 6(-i)$$

$$5i + 6i = 11i$$

$$\frac{23}{4} = 5.75$$

15. $4i^{104} + 2i^{331}$

$$\frac{104}{4} = 26$$

$$4(1) + 2(-i)$$

$$4 - 2i$$

$$\frac{331}{4} = 82.75$$

16. $-2i^{34} - 3i^{224}$

$$\frac{34}{4} = 8.5$$

$$-2(1) - 3(1)$$

$$-2 - 3 = -5$$

$$\frac{224}{4} = 56$$

$$17. 2xi^{15} - 6xi^{20}$$

$$\frac{15}{4} = 3.75 \quad \frac{20}{4} = 5.0$$

$$2x(-i) - 6x(1)$$

$$-6x - 2xi$$

$$18. 3mi^{47} - 2mi^{98}$$

$$\frac{47}{4} = 11.75 \quad \frac{98}{4} = 24.5$$

$$3m(-i) - 2m(-1)$$

$$+2m - 3mi$$

$$19. 3xi^{65} - 2xi^{92} - 4xi^{11}$$

$$\frac{65}{4} = 16.25 \quad \frac{92}{4} = 23.0 \quad \frac{11}{4} = 2.75$$

$$3x(i) - 2x(1) - 4x(-i)$$

$$3xi - 2x + 4xi$$

$$-2x + 7xi$$

$$20. -2yi^{87} + 3xi^{41} - 7xi^{117}$$

$$\frac{87}{4} = 21.75 \quad \frac{41}{4} = 10.25 \quad \frac{117}{4} = 29.25$$

$$-2y(-i) + 3x(i) - 7x(i)$$

$$2yi + 3xi - 7xi$$

$$2yi - 4xi$$

$$21. -2ai^{49} - 3bi^{27} + 3ai^{225}$$

$$\frac{49}{4} = 12.25 \quad \frac{27}{4} = 6.75 \quad \frac{225}{4} = 56.25$$

$$-2a(i) - 3b(-i) + 3a(i)$$

$$-2ai + 3bi + 3ai$$

$$1ai + 3bi$$

$$22. 6ki^{28} + 4pi^{31} - 8pi^{73}$$

$$\frac{28}{4} = 7.0 \quad \frac{31}{4} = 7.75 \quad \frac{73}{4} = 18.25$$

$$6k(1) + 4p(-i) - 8p(i)$$

$$6k - 4pi - 8pi$$

$$6k - 12pi$$

$$23. 8xi^{10} - 4yi^{19} + 2yi^{83} - 6xi$$

$$\frac{10}{4} = 2.5 \quad \frac{19}{4} = 4.75 \quad \frac{83}{4} = 20.75 \quad \frac{1}{4} = 0.25$$

$$8x(-1) - 4y(-i) + 2y(-i) - 6x(i)$$

$$-8x + 4yi - 2yi - 6xi$$

$$24. 3xi^{39} + 3yi^9 - 5yi^{83} + 2xi^{214}$$

$$\frac{39}{4} = 9.75 \quad \frac{9}{4} = 2.25 \quad \frac{83}{4} = 20.75 \quad \frac{214}{4} = 53.5$$

$$3x(-i) + 3y(i) - 5y(-i) + 2x(1)$$

$$-3xi + 3yi + 5yi - 2x$$

$$-2x - 3xi + 8yi$$