Honors Math 2
Quarter 1 Review for replacement test

Name Key
Period_____ Date_____

1. $5^4 \cdot 5^3$ $\boxed{= 5^7}$

2. $(-6m^3)^2(2m^4n^5)$

$(36m^6)(2m^4n^5) = \boxed{72m^{10}n^5}$

3. $(4u^2v^{10})^2(u^2v^3)^{-2}$

$(16u^4v^{20})\dfrac{1}{(u^2v^3)^2} = \dfrac{16u^4v^{20}}{u^4v^6}$

$\boxed{= 16v^{14}}$

4. $\dfrac{-7^0}{6x^{-4}}$ $\dfrac{-1}{6x^{-4}} = \boxed{\dfrac{-x^4}{6}}$

5. $\dfrac{-8^0}{3x^4}$ $\boxed{\dfrac{-1}{3x^4}}$

6. $\dfrac{m^{\frac{2}{3}}}{m^{\frac{1}{3}}}$ $m^{\frac{2}{3}-\frac{1}{3}} = \boxed{m^{\frac{1}{3}}}$

7. $\dfrac{\sqrt{5}}{\sqrt{15}} = \dfrac{1}{\sqrt{3}}\dfrac{\sqrt{3}}{\sqrt{3}} = \boxed{\dfrac{\sqrt{3}}{3}}$

8. $-10x^2y^{-3}z^7$ $\boxed{\dfrac{-10x^2z^7}{y^3}}$

9. $3\sqrt{7}\,(4\sqrt{2} - 5\sqrt{3})$

$\boxed{12\sqrt{14} - 15\sqrt{21}}$

10. $4\sqrt{2}\,(-6\sqrt{10} + 5\sqrt{2})$

$-24\sqrt{20} + 20\sqrt{4}$

$\boxed{-48\sqrt{5} + 40}$

11. $\sqrt{10} + \sqrt{48}$

$\boxed{\sqrt{10} + 4\sqrt{3}}$

12. $\sqrt{3m} \cdot \sqrt{72m}$
$36 \cdot 2$

$\sqrt{3m} \cdot 6\sqrt{2m} = 6\sqrt{6m^2}$

$= \boxed{6m\sqrt{6}}$

Write in exponential form.

13. $4\sqrt{n}$ $4n^{1/2}$

14. $(\sqrt[3]{3m})^5$ $(3m)^{5/3}$

Write in radical form.

15. $25^{\frac{3}{2}}$ $(\sqrt{25})^3$

16. $(4m)^{\frac{3}{5}}$ $(\sqrt[5]{4m})^3$

Simplify.

17. $(3y^2 - 2y + 4) + (y^2 + 3y - 8)$

$4y^2 + y - 4$

18. $(\cancel{3m} - \cancel{3m^3}) + \overline{(}14 + \cancel{8m^3} \overline{+} \cancel{5m^2} + \cancel{m})$

$5m^3 - 5m^2 + 4m - 14$

19. $(2n - 3)(7n - 5)$

$14n^2 - 10n - 21n + 15$

$14n^2 - 31n + 15$

20. $(4x + 1)^2$

$(4x+1)(4x+1)$

$16x^2 + 4x + 4x + 1$

$16x^2 + 8x + 1$

21. $\sqrt{-72}$

$i\sqrt{72}$

$6i\sqrt{2}$

22. $\sqrt{-125}$

$i\sqrt{125}$

$5i\sqrt{5}$

Solve the equation for x.

23. $x^2 - 4 = 20$

$x^2 = 24$

$x = \pm\sqrt{24}$

$x = \pm 2\sqrt{6}$

24. $2x^2 - 10 = -30$

$+10 \quad +10$

$2x^2 = -20$

$x^2 = -10$

$x = \pm\sqrt{-10} = \boxed{\pm i\sqrt{10}}$

Simplify:

25. $(24 - 15i) + (16 + 7i)$

$40 - 8i$

26. $(3 - 2i)(4 + 2i)$

$12 + 6i - 8i - 4i^2$

$12 - 2i + 4$

$16 - 2i$

27. $\frac{2}{5i}\frac{(i)}{(i)} = \frac{2i}{5i^2} = \frac{-2i}{5}$

Given: $z = 2 - i$ $\quad w = 3 + 2i$

Find:

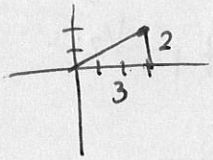
28. $-z$

$-2 + i$

29. $\bar{z}$

$2 + i$

30. $|w|$ $= \sqrt{3^2 + 2^2}$



$= \sqrt{13}$