H Math 2 Name_____

Review 5.1-5.4

Simplify. Use absolute value signs when necessary.

1) $\sqrt[3]{1000m^4p^2q^2}$

2) $\sqrt{98x^4y^2}$

3) $\sqrt{144n^2}$

4) $\sqrt{180}$

5) $\sqrt[3]{162m^3}$

6) $\sqrt[4]{324x^8y^4z^5}$

7) $\sqrt[5]{-160x^7}$

8) $\sqrt{108}$

9) $\sqrt[4]{96}$

10) $\sqrt[3]{-48a^3b^4}$

Write each expression in exponential form.

11) $\left(\sqrt{k}\right)^3$

12) $\left(\sqrt[5]{x}\right)^7$

13) $\left(\sqrt[5]{3x}\right)^3$

14) $\left(\sqrt[4]{5n}\right)^3$

Write each expression in radical form. Simplify when necessary.

15) $v^{\frac{1}{6}}$

16) $(2p)^{\frac{5}{2}}$

17) $(2p)^{\frac{3}{2}}$

18) $n^{\frac{1}{4}}$

Solve.

19) $4n^2 + 10n + 6 = 0$

20) $7m^2 - 4m + 2 = 0$

21) $8r^2 + 2r + 2 = 0$

22) $3v^2 + 9 = 0$

23) $b^2 - 4b = -1$

24) $2n^2 - 120 = -8n$

25) $2m^2 = 24$

26) $2m^2 - 11m + 4 = -2m^2$

27) $7x^2 - 15x = -2 - 12x$

28) $20m^2 + 6m + 4 = -6 + 11m^2$

29) $4x^2 - 9 = 40$

30) $7 - 9k^2 = -2$

31) $v^2 + 49 = 14v$

32) $7x^2 + 49x = -42$

H Math 2 Name_____

Review 5.1-5.4

Simplify. Use absolute value signs when necessary.

1) $\sqrt[3]{1000m^4p^2q^2}$

$10m\sqrt[3]{mp^2q^2}$

2) $\sqrt{98x^4y^2}$

$7x^2|y|\sqrt{2}$

3) $\sqrt{144n^2}$

$12|n|$

4) $\sqrt{180}$

$6\sqrt{5}$

5) $\sqrt[3]{162m^3}$

$3m\sqrt[3]{6}$

6) $\sqrt[4]{324x^8y^4z^5}$

$3x^2|y| \cdot |z|\sqrt[4]{4z}$

7) $\sqrt[5]{-160x^7}$

$-2x\sqrt[5]{5x^2}$

8) $\sqrt{108}$

$6\sqrt{3}$

9) $\sqrt[4]{96}$

$2\sqrt[4]{6}$

10) $\sqrt[3]{-48a^3b^4}$

$-2ab\sqrt[3]{6b}$

Write each expression in exponential form.

11) $\left(\sqrt{k}\right)^3$

$k^{\frac{3}{2}}$

12) $\left(\sqrt[5]{x}\right)^7$

$x^{\frac{7}{5}}$

13) $\left(\sqrt[5]{3x}\right)^3$

$(3x)^{\frac{3}{5}}$

14) $\left(\sqrt[4]{5n}\right)^3$

$(5n)^{\frac{3}{4}}$

Write each expression in radical form. Simplify when necessary.

15) $v^{\frac{1}{6}}$

$\sqrt[6]{v}$

16) $(2p)^{\frac{5}{2}}$

$\left(\sqrt{2p}\right)^5$

17) $(2p)^{\frac{3}{2}}$

$\left(\sqrt{2p}\right)^3$

18) $n^{\frac{1}{4}}$

$\sqrt[4]{n}$

Solve.

19) $4n^2 + 10n + 6 = 0$

$\left\{-1, -\frac{3}{2}\right\}$

20) $7m^2 - 4m + 2 = 0$

$\left\{\frac{2 + i\sqrt{10}}{7}, \frac{2 - i\sqrt{10}}{7}\right\}$

21) $8r^2 + 2r + 2 = 0$

$\left\{\frac{-1 + i\sqrt{15}}{8}, \frac{-1 - i\sqrt{15}}{8}\right\}$

22) $3v^2 + 9 = 0$

$\{i\sqrt{3}, -i\sqrt{3}\}$

23) $b^2 - 4b = -1$

$\{2 + \sqrt{3}, 2 - \sqrt{3}\}$

24) $2n^2 - 120 = -8n$

$\{6, -10\}$

25) $2m^2 = 24$

$\{2\sqrt{3}, -2\sqrt{3}\}$

26) $2m^2 - 11m + 4 = -2m^2$

$\left\{\frac{11 + \sqrt{57}}{8}, \frac{11 - \sqrt{57}}{8}\right\}$

27) $7x^2 - 15x = -2 - 12x$

$\left\{\frac{3 + i\sqrt{47}}{14}, \frac{3 - i\sqrt{47}}{14}\right\}$

28) $20m^2 + 6m + 4 = -6 + 11m^2$

$\left\{\frac{-1 + 3i}{3}, \frac{-1 - 3i}{3}\right\}$

29) $4x^2 - 9 = 40$

$\left\{\frac{7}{2}, -\frac{7}{2}\right\}$

30) $7 - 9k^2 = -2$

$\{1, -1\}$

31) $v^2 + 49 = 14v$

$\{7\}$

32) $7x^2 + 49x = -42$

$\{-6, -1\}$