Name: _____ ME43 Classwork 14

1. The expression $(x^2z^3)(xy^2z)$ is equivalent to
(1) $x^2y^2z^3$ (3) $x^3y^3z^4$
(2) $x^3y^2z^4$ (4) $x^3y^2z^5$

2. The sum of $4x^2 + x - 8$ and $x^2 + 9$ can be expressed as
(1) $4x^2 + x + 1$ (3) $5x^2 + x + 1$
(2) $4x^4 + x + 1$ (4) $5x^4 + x + 1$

3. Which binomial is equivalent to $3(x-1) - 2(x-3)$?
(1) $x - 7$ (3) $x + 5$
(2) $5x - 7$ (4) $x + 3$

4. Evaluate $\frac{5 - y^2}{(w+1)^3}$ if $y = -1$ and $w = -3$.

5. Which expression represents an irrational number?
(1) π (3) $.\overline{3}$
(2) $-\frac{2}{3}$ (4) $\sqrt{9}$

6. Simplify: $\frac{2x}{3} \cdot \frac{2}{3}$

7. Evaluate $3x(x-3)^2$ if $x = -2$.

8. Solve: $\frac{x}{4} = \frac{10}{2}$

Which number is rational?
9. (1) $4\sqrt{2}$ (3) $\frac{1}{2}\sqrt{3}$
(2) $\sqrt{15}$ (4) $\sqrt{16}$

What are the factors of $3x^2 + 7x - 20$?
10. (1) $(3x+5)(x-4)$ (3) $(3x-5)(x+4)$
(2) $(3x-4)(x+5)$ (4) $(3x+4)(x-5)$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

What is the value of $3^3 \cdot 3^{-2}$?

11. (1) 3 (3) 3^{-6}
(2) 9^{-6} (4) 9

16. Simplify: $\frac{7}{6} \cdot \frac{2d}{4}$

12. Simplify: $\frac{4}{5} + \frac{1}{8}$

If $x = -1$ and $y = 2$, find the value of

17. $\frac{-2yx^2}{4xy}$.

13. Simplify: $\frac{2}{3} \div \frac{5}{4x}$

The expression $(x-6)^2$ is equivalent to

18. (1) $x^2 - 36$ (3) $x^2 - 12x + 36$
(2) $x^2 + 36$ (4) $x^2 + 12x + 36$

The expression $\frac{12z^4 + 20z^3 - 4z^2}{-4z^2}$,

14. $z \neq 0$, is equivalent to

(1) $-4z^2$ (3) $-3z^2 - 5z + 1$
(2) $-3z^2 - 5z$ (4) $3z^2 - 5z - 1$

19. Evaluate $-(x - 4yz)^3$ if $x = 21$, $y = -2$, and $z = -3$.

15. [Jun 2003, #16]
The sum of $\sqrt{18}$ and $\sqrt{72}$ is

(1) $\sqrt{90}$ (3) $3\sqrt{10}$
(2) $9\sqrt{2}$ (4) $6\sqrt{3}$

20. Simplify: $12 \div \frac{1}{5}$

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____