

Name _____

Divide.

1) $\frac{x^5 - 14x}{2x^2}$

2) $\frac{12x^3 - 32x^2 - 20x + 5}{4x}$

3) $(8m^2 + 26m - 24) \div (m + 4)$

4) $(p^2 + 4p - 30) \div (p + 8)$

5) $\frac{x^4 - 625}{x^2 - 25}$

Evaluate the exponential form.

6) -3^2

Simplify.

7) $(x^5y^3)(x^8y^7z^0)$

Simplify the expression.

8) $52(w^5z)^2(-w^4z^3)$

9) $\left(\frac{4}{a-b}\right)^2$

10) $(r + 4s - 5) + (-4r + s) + (s - 4)$

11) $(20x^4 + 11x^2) - (-13x^4 + 4x^2)$

Multiply.

12) $4x^3y(xy^2 + 3)$

13) $(4x - 10)(x + 1)$

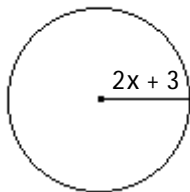
14) $(3x - 4)(3x + 4)$

15) $(x - 5)(9x^2 + x + 7)$

Solve the problem.

- 16) Determine a polynomial that represents the area of the figure. Leave π in the answer.

$$A = \pi r^2$$



- A) $4x^2 + 9$
 B) $4x^2 + 12x + 9$
 C) $4\pi x^2 + 12\pi x + 9\pi$
 D) $4\pi x^2 + 9\pi$

Multiply.

17) $(x^2 + 11y^2)(x^2 - 11y^2)$

18) $(3m + 5)^2$

19) $(0.9x - 0.6)^2$

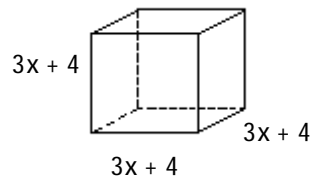
20) $\left(s - \frac{5}{6}\right)^2$

Multiply.

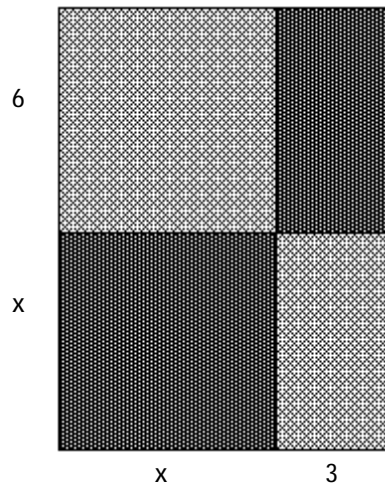
21) $(x - 2)^2 + (x - 2)^2$

Solve the problem.

- 22) Find a polynomial that represents the volume of the cube.



- 23) Find the total area of the dark shaded rectangles.



Simplify. Do not use negative exponents in your answer.

24) $(a^{-7}b^{-6})(a^{-6}b^{-9})$

25) $8(x^8y^{-7}z^{-3})(x^{-2}y^{-4}z^7)$

Simplify the expression. Write the answer using positive exponents.

26) $\frac{y^{-14}}{y^3}$

27) $\frac{6^4 x^8}{6^8 x^6}$

28) $(r^{-9}t)^{-4}$

Answer Key

Testname: WKS_12.5_12REV

1) $\frac{x^3}{2} - \frac{7}{x}$

2) $3x^2 - 8x - 5 + \frac{5}{4x}$

3) $8m - 6$

4) $p - 4 + \frac{2}{p + 8}$

5) $x^2 + 25$

6) -9

7) $x^{13}y^{10}$

8) $-52w^{14}z^5$

9) $\frac{16}{(a - b)^2}$

10) $-3r + 6s - 9$

11) $33x^4 + 7x^2$

12) $4x^4y^3 + 12x^3y$

13) $4x^2 - 6x - 10$

14) $9x^2 - 16$

15) $9x^3 - 44x^2 + 2x - 35$

16) C

17) $x^4 - 121y^4$

18) $9m^2 + 30m + 25$

19) $0.81x^2 - 1.08x + 0.36$

20) $s^2 - \frac{5}{3}s + \frac{25}{36}$

21) $2x^2 - 8x + 8$

22) $27x^3 + 108x^2 + 144x + 64$

23) $x^2 + 18$  No middle term since you are looking at the dark shaded area

24) $\frac{1}{a^{13}b^{15}}$

25) $\frac{8x^6z^4}{y^{11}}$

26) $\frac{1}{y^{17}}$

27) $\frac{x^2}{6^4}$

28) $\frac{r^{36}}{t^4}$