

Standard One: Number Sense and Operations Worksheet One

- Evaluate the function for $g = 5$.
 $f(g) = g^4$
[A] 20 [B] 1024
[C] 9 [D] 625
- Which function is greatest at $x = 3$?
[A] $f(x) = x^5$
[B] $f(x) = 2 \cdot x^5$
[C] $f(x) = 5^x$
[D] none of the functions is greater than the others
- The projected worth (in millions of dollars) of a large company is modeled by the equation $y = 261(1.02)^x$. The variable x represents the number of years since 1997. What is the projected annual percent of growth, and what should the company be worth in 2006?
[A] 12%; \$266.22 million
[B] 12%; \$318.16 million
[C] 2%; \$305.80 million
[D] 2%; \$311.92 million
- Write 0.00000617 in scientific notation.
[A] 6.17×10^{-6}
[B] 0.617×10^{-7}
[C] 617×10^{-8}
[D] 0.617×10^{-5}
- Write 101,000 in scientific notation.
[A] 10.1×10^4
[B] 1.01×10^5
[C] 101×10^3
[D] 0.101×10^6
- Last year a large trucking company delivered about 8 million loads of goods at an average value of \$25,000 per load. What was the total value of goods delivered? Express your answer in scientific notation.
[A] $\$80.0 \times 10^{10}$
[B] $\$8.0 \times 10^{11}$
[C] $\$2.0 \times 10^{11}$
[D] $\$20.0 \times 10^{10}$

Simplify:

- $(7xy)(-8x^3y^2)$
[A] $-x^4y^3$ [B] $-xy^2$
[C] $-56x^4y^3$ [D] $-56x^3y^2$

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8. Simplify: $\frac{27x^3}{9x^{-8}}$

[A] $3x^{11}$ [B] $3x^5$

[C] $\frac{3}{x^{11}}$ [D] $\frac{3}{x^5}$

9. Evaluate (assume $x \neq 0$ and $y \neq 0$): $4x^0 + 5y^0$

[A] 9 [B] 0

[C] $4x + 5y$ [D] $9xy$

10. Write the expression so that it contains only positive exponents.

$$\frac{t^{-7}u^{-5}}{v^{-1}}$$

[A] $\frac{v}{t^7u^5}$ [B] $-\frac{t^7u^5}{v}$

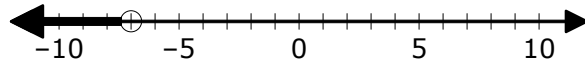
[C] t^7u^5v [D] $-\frac{v}{t^7u^5}$

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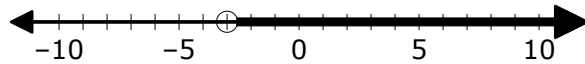
11. Solve the inequality and graph the solutions on a number line.

$$x - 2 > -5$$

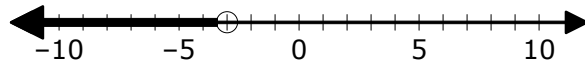
[A] $x < -7$



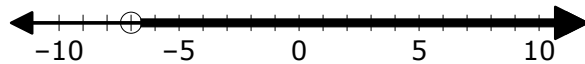
[B] $x > -3$



[C] $x < -3$



[D] $x > -7$



12. An oil tank contains 220.2 gallons of oil. Whenever the amount of oil drops below 70 gallons, an alarm sounds. If 166.6 gallons are pumped into a delivery truck, how many gallons must be pumped back into the tank in order to shut off the alarm?

[A] at least 13.2 gallons

[B] at least 53.6 gallons

[C] at least 133.8 gallons

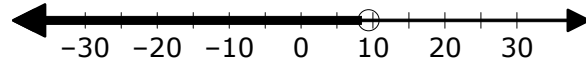
[D] at least 16.4 gallons

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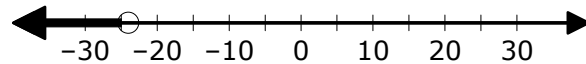
13. Solve the inequality and graph the solution on a number line.

$$\frac{5}{8}x < -15$$

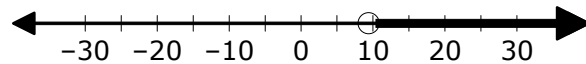
[A] $x < 9.4$



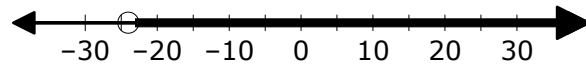
[B] $x < -24$



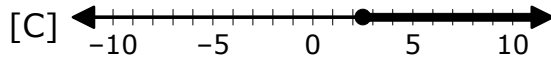
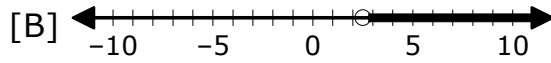
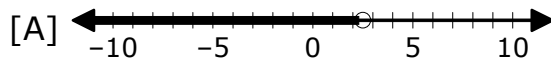
[C] $x > 9.4$



[D] $x > -24$



14. Graph: $5x + 1 > 3(x + 2)$



15. Solve: $|4x + 3| = 6$

[A] $\frac{3}{4}, -\frac{9}{4}$

[B] $0, \frac{3}{2}$

[C] $-\frac{3}{4}, -\frac{9}{4}$

[D] $3, \frac{3}{2}$

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[1] D

[2] B

[3] D

[4] A

[5] B

[6] C

[7] C

[8] A

[9] A

[10] A

[11] B

[12] D

[13] B

[14] B

[15] A