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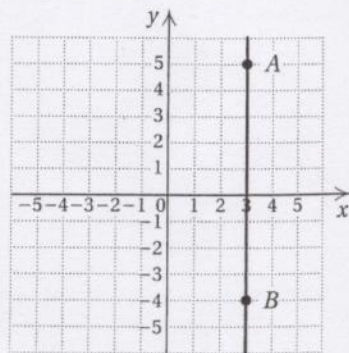
11. Light travels at a speed of 3.0×10^5 km per second. Earth is, on average, 1.5×10^8 km from the sun. About how many minutes does it take for light to travel to Earth from the sun?

A. 8.3 min B. 500 min C. 0.5 min D. 83 min

12. Use the graph of the line AB at right to answer the question that follows.

Which of the following equations represents the line AB ?

A. $y = 3$ B. $x + y = 3$
 C. $x = 3$ D. $y = x + 3$



13. Find the slope, if it exists, of the line containing the points $(0, -4)$ and $(-2, -1)$.

A. $-\frac{3}{2}$ B. $-\frac{2}{3}$ C. $\frac{3}{2}$ D. Undefined

14. What are the coordinates of the y -intercept of the line whose equation is $2x - 5y = 10$?

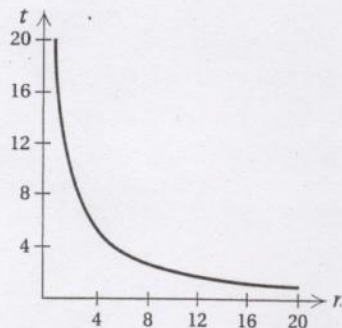
A. $(0, -2)$ B. $(0, 5)$ C. $(5, 0)$ D. $(-2, 0)$

15. Which of the following is an equation of the line containing the points $(-5, 6)$ and $(-2, 4)$?

A. $y = -\frac{3}{2}x - \frac{3}{2}$ B. $y = -\frac{2}{3}x + 6$ C. $y = \frac{3}{2}x + \frac{27}{2}$ D. $y = -\frac{2}{3}x + \frac{8}{3}$

14. The graph at right shows how the amount of time t that it takes to polish the rotor blade of a helicopter depends on the number of machinists n working on it. Which of the following statements about the relationship is true?

- A. The more machinists working, the longer it takes to polish the blade.
 B. It takes 4 machinists 10 hr to polish the blade.
 C. If the blade must be polished in 2 hr, 5 machinists can get it done.
 D. In 10 hr, 2 machinists can polish the blade.



15. If $\frac{2}{5}x + 7 = 1$, what is the value of $10 - 3x$?

A. -15

B. 55

C. 17

D. -35

16. Solve $t = \frac{1}{5}(r + 5)$ for r .

A. $r = 5t - 5$

B. $r = 5t - 25$

C. $r = \frac{t-1}{5}$

D. $r = \frac{1}{5}t - 1$

17. What is the solution of the system of equations $y = 2x^2 + 7x + 3$ and $4x + 3y = 9$?

A. $(-3, 7), \left(-\frac{1}{2}, \frac{11}{3}\right)$

B. $(0, 3), \left(-\frac{25}{6}, \frac{77}{9}\right)$

C. $(3\sqrt{3}, 3 - 4\sqrt{3}), (-3\sqrt{3}, 3 + 4\sqrt{3})$

D. No solution

18. Which of the following equations correctly translates this statement? The product of the length l of a fish and the square of the girth g of the fish is 280 times the weight w of the fish.

A. $(l \times g)^2 = 280w$

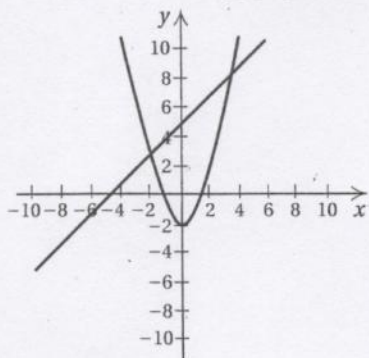
B. $280(l \times g^2) = w$

C. $l \times g^2 = 280w$

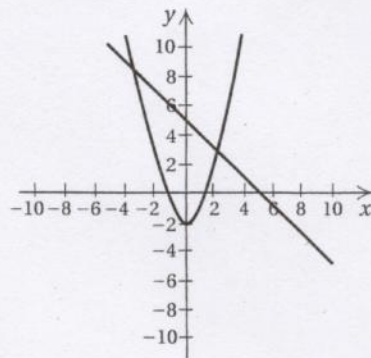
D. $280(l + g) = w$

12. Which of the following graphs shows the solution of the system of equations $y - 5 + x = 2x$ and $y = x^2 - 2$?

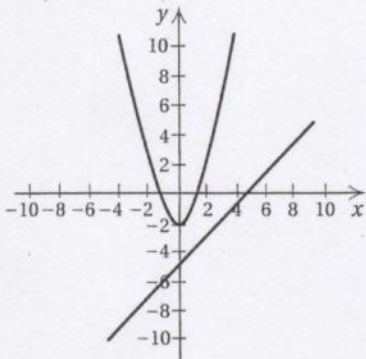
11. A.



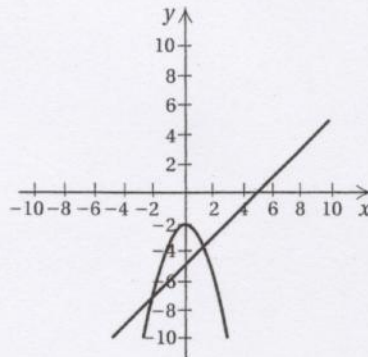
B.



C.



D.



22. Which of the following is one factor of $3x^2 - 4x - 15$?

13. A. $(x - 5)$

B. $(3x - 5)$

C. $(x + 3)$

D. $(x - 3)$

23. Perform the multiplication: $(2x + 5)^2$.

13. A. $4x^2 + 25$

B. $4x^2 + 20x + 25$

C. $4x^2 + 10x + 25$

D. $2x^2 + 25$

24. Add and simplify, if possible: $\frac{x - 12}{x^2 + x - 6} + \frac{x}{x - 2}$.

14. A. $\frac{x + 6}{x + 3}$

B. $\frac{4x - 12}{x - 6}$

C. $\frac{2x - 12}{x^2 + 2x - 8}$

D. $\frac{2x - 12}{(x^2 + x - 6)(x - 2)}$

~~23.~~ Add and simplify, if possible: $\sqrt{18x^3} - \sqrt{2x} + \sqrt{3x}$.

15. A. $\sqrt{18x^3 + x}$

B. $\sqrt{18x^3} + \sqrt{x}$

C. $(3x - 1)\sqrt{2x} + \sqrt{3x}$

D. $\sqrt{x}(2\sqrt{2} + \sqrt{3})$

~~26.~~ If $f(x) = |2x - 7|$, find $f(2) \cdot f(\frac{1}{2})$.

16. A. 18

B. 5

C. 25

D. 3

~~27.~~ Shown at right is the graph of a quadratic function.

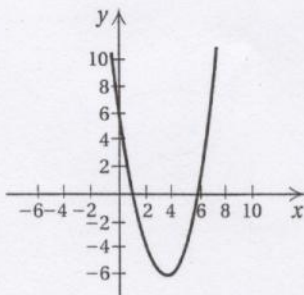
17. Which of the following equations is represented by this graph?

A. $y = x^2 - 5x - 6$

B. $y = x^2 + 5x - 6$

C. $y = x^2 + 7x + 6$

D. $y = x^2 - 7x + 6$



~~28.~~ Shown at right is the graph of a quadratic inequality.

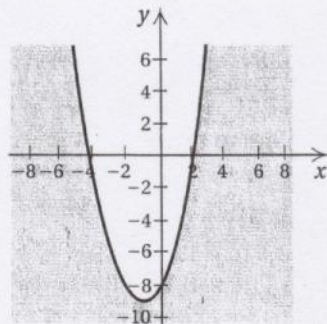
18. Which of the following inequalities describes the shaded region?

A. $y \leq x^2 + 2x - 8$

B. $y \geq x^2 + 2x - 8$

C. $y \leq (x - 1)^2 - 9$

D. $y \geq (x - 1)^2 - 9$



~~38~~ Solve the equation $2x^2 - 5x = 8$ using the quadratic formula. In the solution, what is the number under the radical sign?

~~19~~ A. -39

B. 5

C. 41

D. 89

~~25~~ Buck Creek Township Fire Department has a fire truck with a ladder that extends straight to 60 ft. At a fire in an apartment building, the closest the truck could get to the burning building was 30 ft. About how high on the building did the ladder reach?

A. 52.0 ft

B. 60.0 ft

C. 30.0 ft

D. 67.1 ft

ANSWERS TO LIT/BITTINGER/BEECHER APPENDIX O

1 A	6 D	11 A	16 A
2 C	7 B	12 D	17 D
3 A	8 A	13 B	18 A
4 A	9 B	14 A	19 D
5 D	10 C	15 C	20 A