4. $t^2 - 59t + 54 - 82t^2 + 60t$ is equivalent to:

   F. $-26t^2$

   G. $-26t^6$

   H. $-81t^4 + t^2 + 54$

   J. $-81t^2 + t + 54$

   K. $-82t^2 + t + 54$

$-81t^2$

---

6. The expression $(4z + 3)(z - 2)$ is equivalent to:
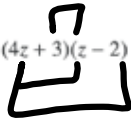
   F. $4z^2 - 5$

   G. $4z^2 - 6$

   H. $4z^2 - 3z - 5$

   J. $4z^2 - 5z - 6$

   K. $4z^2 + 5z - 6$

$4z^2 - 8z + 3z - 6$

$4z^2 - 5z - 6$

7. If 40% of a given number is 8, then what is 15% of the given number?

A. 1.2
B. 1.8
C. 3.0
D. 5.0
E. 6.5

$$\frac{.4x}{.4} = \frac{8}{.4}$$

$$.15(20) = 3$$

$$x = 20$$

9. In the standard (x, y) coordinate plane, point M with coordinates (5,4) is the midpoint of $\overline{AB}$, and B has coordinates (7,3). What are the coordinates of A ?

A. (17,11)
B. (9, 2)
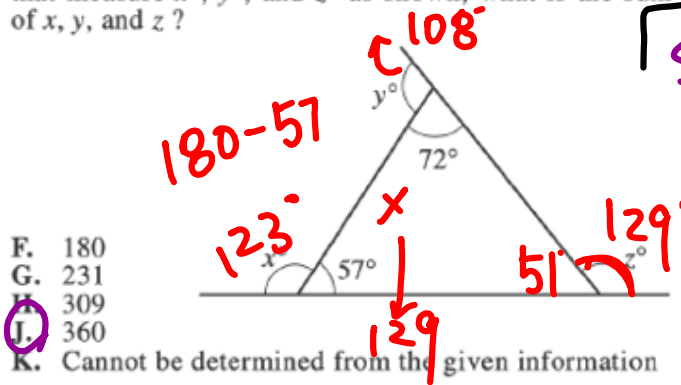C. (6, 3.5)
D. (3, 5)
E. (−3,−5)

$$\left(\frac{x_1 + x_2}{2} , \frac{y_1 + y_2}{2} \right)$$

$$(x, y)$$

$$\left(\frac{x+7}{2} , \frac{y+3}{2} \right) \rightarrow (5,4)$$

$$\frac{x+7}{2} = 5 \rightarrow x+7 = 10$$

$$x = 3$$

12. Given the triangle shown below with exterior angles that measure $x°$, $y°$, and $z°$ as shown, what is the sum of x, y, and z ?

[handwritten: C, 108]
[handwritten: 180-57]
[handwritten: 123°]
[handwritten: 129°]
[handwritten: sum of ext ∡'s = 360]

$y°$

$72°$

x

$57°$

$51°$ $z°$

[handwritten: 129]

F. 180
G. 231
H. 309
J. 360
K. Cannot be determined from the given information

[handwritten: 108, 129, 123]

[handwritten: M₁ = M₂]

17. Which of the following is the slope of a line parallel to the line $y = \frac{2}{3}x - 4$ in the standard (x,y) coordinate plane?

[handwritten: m = \frac{2}{3}]

A. −4

B. $-\frac{3}{2}$

C. 2

D. $\frac{3}{2}$

E. $\frac{2}{3}$

21. What values of x are solutions for $x^2 + 2x = 8$?

   A. −4 and 2
   B. −2 and 0
   C. −2 and 4
   D. 0 and 2
   E. 6 and 8

/ $x^2 + 2x - 8 = 0$

$(x+4)(x-2) = 0$

$x = -4, 2$

22. For all $a > 1$, the expression $\dfrac{a^4}{a^6}$ equals:

   F. $\frac{1}{2}$
   G. $-a^2$
   H. a^2
   J. $-\frac{1}{a^2}$
   K. $\frac{1}{a^2}$

$\dfrac{a^4}{a^6} = a^{-2} = \dfrac{1}{a^2}$

30. A formula used to compute the current value of a savings account is $A = P(1 + r)^n$, where A is the current value; P is the amount deposited; r is the rate of interest for 1 compounding period, expressed as a decimal; and n is the number of compounding periods. Which of the following is closest to the value of a savings account after 5 years if $10,000 is deposited at 4% annual interest compounded yearly?

F. $10,400
G. $12,167
H. $42,000
J. $52,000
K. $53,782

$$10000\left(1+.04\right)^{5}$$

$$=$$