

Student: _____
Date: _____
Time: _____

Instructor: Gary Parker
Course: MTH 065 - Elementary Algebra II
- Fall 2010
Book: Bittinger: Elementary &
Intermediate Algebra Graphs & Models,
3e

Assignment: Sample Final Exam part 2

1. Write the quadratic function in the form $a(x - h)^2 + k$. Find its vertex and axis of symmetry

$$f(x) = -x^2 + 9x - 24$$

Which of the choices on the right represents $f(x)$ in the form $a(x - h)^2 + k$?

The vertex is .

(Type an ordered pair. Type a fraction.)

Choose the correct axis of symmetry.

- A. $x = \frac{9}{2}$ B. $y = -\frac{15}{4}$
 C. $y = \frac{15}{4}$ D. $x = -\frac{9}{2}$

- A. $-\left(x + \frac{9}{2}\right)^2 - \frac{15}{4}$
 B. $-(x - 9)^2 + 57$
 C. $-\left(x - \frac{9}{2}\right)^2 - 24$
 D. $-\left(x - \frac{9}{2}\right)^2 - \frac{15}{4}$

2. Divide and check.

$$\frac{54x^6 - 36x^5 + 30x}{6x}$$

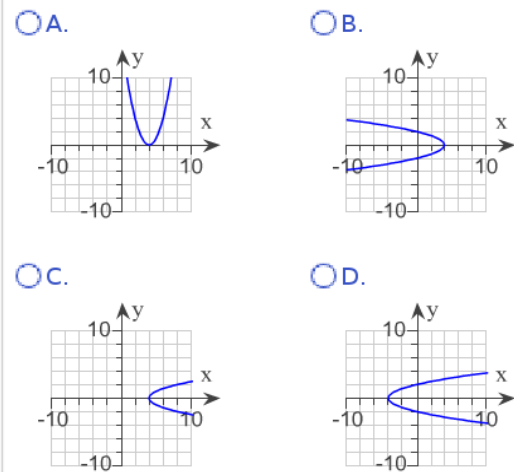
The answer is .

(Simplify your answer.)

3. Graph.

$$x = y^2 + 4$$

Choose the graph of $x = y^2 + 4$.



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4. Multiply.

$$(x + 8)(x - 5)$$

$$(x + 8)(x - 5) = \square$$

(Simplify your answer.)

5. Find the equation for the circle with center $(1, -3)$ and passing through $(4, 1)$.

Which is the correct equation?

A. $(x + 3)^2 + (y - 1)^2 = 25$

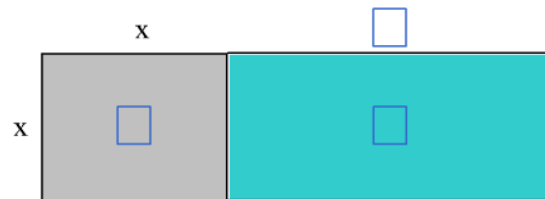
B. $x^2 + y^2 = 25$

C. $(x - 1)^2 + (y + 3)^2 = 25$

D. $(x - 1)^2 + (y - 3)^2 = 49$

6. Complete the rectangle to illustrate this product.

$$x(x + 4)$$



7. Multiply and simplify.

$$t^6 \cdot t^7$$

The answer is $t^6 \cdot t^7 = \square$.

(Type your answer as one base to a nonnegative power.)

8. Solve.

$$40 - x^2 = 3x$$

$$x = \square$$

(Simplify your answer. Use a comma to separate answers as needed.)

9. Let $f(x) = (x - 2)^2$.

Find x so that $f(x) = 81$.

The solutions are \square .

(Use commas to separate answers.)

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10. Factor.

$$2v^2 + 9v + 9$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $2v^2 + 9v + 9 = \square$

B. The trinomial is not factorable.

11. Solve by completing the square.

$$5x^2 - x = 4$$

Select the correct choice below and, if necessary, fill in the answer box to complete your answer.

A. $x = \square$

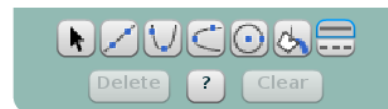
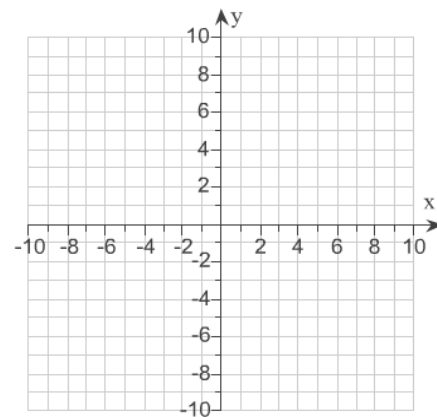
(Simplify your answer. Use a comma to separate answers as needed.)

B. There is no solution.

12. Find the center and the radius of the circle. Then graph the circle.

$$x^2 + y^2 = 4$$

Use the graphing tool on the right to graph the circle.



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1. D
 $\left(\frac{9}{2}, -\frac{15}{4}\right)$
A

2. $9x^5 - 6x^4 + 5$

3. C

4. $x^2 + 3x - 40$

5. C

6. 4
 x^2
4x

7. t^{13}

8. 5, -8

9. -7, 11

10. A, $(2v + 3)(v + 3)$

11. A, 1, $-\frac{4}{5}$

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12.

