```php
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
        <meta http-equiv="content-type" content="text/html; charset=utf-8"/>
        <title>Journey Calculator</title>
</head>
<body>
<?php #script ch13 item 3: car trip cost using cast for validation

//function to create radio buttons with 2 parameters
function create_gallon_radio($value, $name='gallon_price'){
        echo '<input type="radio" name="' . $name . '" value="' . $value . '"';
        if (isset($_POST[$name]) && ($_POST[$name] == $value)){
                echo ' checked="checked"';

}//end create function
                echo " /> $value \n";
}

function error(){
        echo '<h1>Error</h1>
        <p class="error">Please enter a valid distance, speed, price per gallon and fuel efficiency.</h1>';
}
$page_title = "Journey Cost Calculator";

//check form submitted
if ($_SERVER['REQUEST_METHOD'] == 'POST'){
        //have to trim input or it fails as not numeric if empty spaces input
        if (isset($_POST['distance'], $_POST['gallon_price'], $_POST['efficiency'], $_POST['speed']) &&
is_numeric(trim($_POST['distance']))
                && is_numeric(trim($_POST['gallon_price'])) && is_numeric(trim($_POST['efficiency'])) &&
is_numeric(trim($_POST['speed']))){

        //cast input
        $distance=(float) ($_POST['distance']);
        $speed = (float) ($_POST['speed']);
        $gallon_price = (float) $_POST['gallon_price'];
        $efficiency = (int) $_POST['efficiency'];

                if (($distance > 0) && ($gallon_price > 0) && ($speed > 0) && ($efficiency > 0)){//check not
zero

                        //calculate results
                        $gallons = $distance / $efficiency;
                        $dollars = $gallons * $gallon_price;
                        $hours = $distance / $speed;

                        //display results
                        echo '<h1 >Total Estimated Cost</h1>
                                <p>The total estimated cost of driving ' . number_format($distance,2) . '
miles averaging ' . $efficiency
                                . ' miles per gallon and paying an average of $' . $gallon_price . ' per gallon
is $' .
                                        number_format ($dollars, 2) . '.<br />
                If you drive at an average of ' . number_format($speed, 2) . ' mph the trip will take ' .
number_format($hours, 2)
                                        . ' hours.</p>';
                }else{
                        error();
                }
        }else{
                error();
```

```php
	}

}//form submit as post
?>
<h1>Trip Calculator</h1>
<form action="journey_calculator_cast.php" method="post">
		<p>Distance in Miles: <input type="text" name="distance" value="<?php if
(isset($_POST['distance'])) echo trim($_POST['distance']); ?>"/></p>
		<p>Expected Average Speed: <input type="text" name="speed" value="<?php if
(isset($_POST['speed'])) echo trim($_POST['speed']); ?>"/></p>
		<p>Av Price per Gallon: <span class="input"><?php create_gallon_radio('3.00');

create_gallon_radio('3.50');

create_gallon_radio('4.00');

						?>
				</span></p>
				<p>Fuel Efficiency: <select name="efficiency">
												<option value="10" <?php if
(isset($_POST['efficiency']) && ($_POST['efficiency'] == 10)) echo 'selected = "selected"'; ?
>>Terrible</option>
												<option value="20" <?php if
(isset($_POST['efficiency']) && ($_POST['efficiency'] == 20)) echo 'selected = "selected"'; ?
>>Decent</option>
												<option value="30" <?php if
(isset($_POST['efficiency']) && ($_POST['efficiency'] == 30)) echo 'selected = "selected"'; ?>>Good</option>
												<option value="50" <?php if
(isset($_POST['efficiency']) && ($_POST['efficiency'] == 50)) echo 'selected = "selected"'; ?
>>Excellent</option>
				</select></p>
				<p><input type="submit" name="submit" value="Calculate" /></p>
</form>
</body>
</html>
```